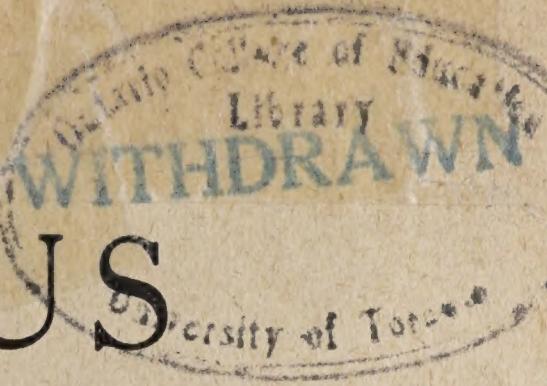


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Proposed Detailed



SYLLABUS

of the work of each of
the eight grades of the

Public School Course for Ontario

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Presented to the Inspectors' and
Public School Departments of the
Ontario Educational Association

Easter 1909

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1909

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TORONTO, April 5th, 1909.

To the Public School Teachers' and Public School Inspectors' Departments of the Ontario Educational Association:—

Your Joint Committee appointed to revise the Course of Study for Public Schools and divide the work into Junior and Senior Grades submits the following Provisional Course for consideration and trial with the hope that in it may be found a basis on which a practical, complete and well-correlated Course may be constructed.

Your Committee found the task entrusted to them one of greater magnitude and responsibility than was at first realized. The scattered membership of the Committee made it quite impossible to hold as many meetings as the full consideration of all details required, and, of necessity, much work had to be done by correspondence which is a slower and less satisfactory method than personal conference. It was only by making most strenuous efforts that the report could be presented at this meeting of the Ontario Educational Association. As a result the correlation of the Courses did not receive sufficient attention and some overlapping may be discovered.

While the Committee was not unanimous upon all matters, the Course as a whole represents the views of a majority of the members.

In what may be considered the newer subjects of the Course, viz.: Nature Study, Art, Manual Training and Household Science, your Committee recognizes that a much fuller Course is presented than can be brought at once into successful operation, and believes that this work can be extended only as the better training of teachers in these subjects and increased facilities may permit.

The different Courses were prepared by sub-committees, and copies of their work sent to the other members for consideration prior to their adoption by the whole Committee. This procedure could not be followed in the subjects of Art, Constructive Work and Household Science, owing to delay in the preparation of these Courses, and in consequence the Committee does not assume the same responsibility regarding the correlation of these Courses and their suitability as it does for the other Courses.

Your Committee considers it advisable that a Course of Study should be accompanied by manuals containing full explanation of the Courses, with necessary suggestions and illustrations for the guidance of the teachers.

The Committee desires to acknowledge the hearty co-operation of Hon. Dr. Pyne, Minister of Education, in defraying the necessary expenses, for without this material aid the work could neither have been carried on nor the result submitted in its present form.

Signed on behalf of the Committee { W. F. CHAPMAN, Chairman.
HENRY WARD, Secretary.

Reading, Literature and Supplementary Reading.

General Suggestions :

READING AND LITERATURE.—In both Reading and Literature throughout the course, the objects are intelligent and intelligible natural reading and the creation of a taste for the best kinds of books. But, in the Reading class, the main object is the former ; and, in the Literature class, the latter. Silent reading should receive attention as well as oral reading, the results of both being tested by questions or by oral or written reproduction. In Literatare, the books should be chiefly narrative and descriptive, being obtained from the School or Public Library or provided by the Board or the pupils themselves, as may be determined by the Board. Even when a supply of suitable books is obtainable, the teacher, in the lower classes in particular, should read to the pupils or give them in his own words much of the best literature. From the first also the pupils should be required to memorize and recite choice selections, not merely to cultivate the verbal memory but to learn to appreciate beauty of thought and expression and to store the mind with literature that will enrich their lives. The reading should be made to correlate as much as possible with composition and the other subjects of the school programme.

Teach pupils (1) to read to listeners rather than to books, and (2) to become good listeners, by occasionally requiring them to lay aside books and listen to the one who is reading. The teacher should test their ability to listen by questions, or by asking them to tell the substance of what they have heard read.

NOTE.—Your Committee found a distinct division of opinion on the method of presenting primary reading, and decided to present two courses A and B for your consideration in Grade I.

Reading for Grade 1 or Junior I. (Course A)

General Suggestions.

Oral reading is a complex operation consisting of (1) word recognition, (2) recognition in the author's thought, and (3) the expression of this thought. Each of these operations must be mastered in the order named and primary attention should be devoted to *each in turn* in the process of teaching oral reading. No pupil should be permitted to read a sentence aloud before he can recognize the words in it and extract the thought from it.

By means of oral language-work, the pupil's knowledge of the oral language, at least during the process of learning word-recognition, must be kept well in advance of his work in recognition.

Word recognition being then the fundamental basis, that method of teaching it which makes the child most independent and gives him the power of rapid and accurate word recognition in the shortest time

must be the best. For this purpose, the symbol becomes the unit of recognition.

That "the sentence is the unit of thought and expression" is the statement of many educationists; but it is certainly self-evident that the word is the unit of thought-expression to an infant and also to anyone attempting to converse in a language which he understands very imperfectly; hence, the word as the unit of thought-expression, is the logical basis for the first stages of the recognition of visible language which is new to the child; but as soon as the pupil gains sufficient facility in recognition, the sentence becomes the unit of thought-expression.

Grade I or Junior I.

The teacher has only two things to accomplish in training pupils to recognize language in its visible form.

(1). To teach the process of combining sounds to form words.

(2). To teach the sounds and powers of the letters and combinations.

1. Combination

The pupils should be able to recognize suitable words quickly when their elements are sounded at intervals and should also be able to separate suitable words into their elements before any letter forms are associated in their minds with these sounds, *e.g.*, the teacher asks the pupils to point to the child whose name she says and then sounds slowly S-a-m, N-e-ll, etc., or says, "Do as I tell you," r-u-n, etc.

The pupils may then be allowed to separate words, at first taking those chosen by the teacher.

2. Association of Symbols with Sounds

The word "ma" is a good one with which to commence this step, because it is short, each sound can be prolonged and four words can be made from the two sounds. Introduce the word through their oral language and have the pupils individually and collectively give the sounds of which it is composed, then have the first sound prolonged and tell the pupils you are going to make the letter which "says that sound." The teacher writes the letter carefully on the board and *teaches* the pupils how to make it. Proceed with the second sound in a similar way. The pupils may now be asked to write "ma," which means to separate it into its sounds and write the symbol which indicates each sound. Now ask pupils to write "am," etc. The letters should not at first be joined but simply made one after another and *script should be taught first*. Follow these *ear problems* with *eye problems* by asking the pupils to whisper to you what the words "am," "ma," etc., which have been written on the black-board, say. The children have now learned all the operations and have had placed in their hands the *golden key* which will enable them to open all the doors to literature.

In introducing new letters, make the pupils conscious of their necessity before giving them, thus after asking them to write "am" "ma", etc., ask them to write "mat." They find they can write "m a" but hesitate at the third sound. The teacher then teaches its form as before and then gives such words as tam, at, etc. In this way each word written reviews the use of the letters previously taught and there is thus a maximum of repetition of process and a minimum of mechanical repetition. In the same way teach "p" and "s." With these five symbols twenty-seven words can be formed and the pupils should acquire a ready facility in solving both eye and ear problems before special difficulties are introduced. To this end plenty of exercise should be given in word building at seats and at blackboard and eye and ear problems in class.

After taking about twelve letters—m, a, t, p, s, r, o, c, n, e, l and h, we prepare the way for sentence building and sentence reading. The first step is to teach the proper joining of letters to form a word, the second the use of "a" and "the" with words, the third the use of the capital at the beginning and fourth the use of the period at the end.

Early sentence building and sentence reading should be of such a nature that the child gets the complete thought of the sentence before attempting to say it. As each child gathers the "story" he comes and whispers it to the teacher. Thus, just so soon as the pupil reaches this stage the sentence becomes the unit of thought expression. The necessary steps leading to this expression are:—(1) The child learns to recognize the words. (2) He joins them at first with difficulty but finally with ease. (3) He gathers and thinks the whole thought. (4) He expresses it to you without reference to the written words. (5) He reads the written sentences expressively.

We now come to one of the greatest difficulties met in teaching phonics, viz.—the introduction of unphonetic words. Two rules may be given for their introduction. (1) Introduce them when they become necessary in sentence building. (2) As far as possible introduce them after the sound or combination of which they are exceptions. All such words should be kept in a list for constant reference and it is surprising what a small list is required by the thoughtful phonic teacher.

After about a dozen more sounds f, d, i, b, u, g, j and (a, e, i, o, u, made long by final silent e) have been taken the pupils should be introduced to print with which they will find very little difficulty if introduced slowly and plenty of practice be given in it by means of writing on slates from short printed sentences either on the blackboard or on small cards.

The remainder of the symbols and combinations may be introduced much more rapidly and little difficulty will be experienced by the teacher who makes the principles involved her own and works out the details to suit the circumstances of the class. The order should be that which gives the greatest power of expressing in visible form, words with which the pupil is already familiar in oral language. The following has been found to be an excellent order for this purpose;—ee, ar, v, sh, oo,

(y long), ch, w, k, er, (th soft and hard), ay (ai), or, ea, x, (y short), ow (ou), z, oy (oi), aw (au), oa, ng, wh, ei, qu, ir, ew, nk, (a after w and before l), ck, gh, (ow as long o), ur, tion (sion), ie, ph, (c soft), kn, (g soft), wr.

Grade 1. or Junior I.

Course B.

Assignment of Work :

Sentences, verses and words based upon stories, rhymes, etc., and read from blackboard, charts and primers. Sight words. Phonic exercises. Stories from pictures. Dramatizing. Use of Supplementary books. Memorizing.

SUGGESTIONS.

Reading and Literature :

Sight reading: Short sentences and paragraphs, based upon conversations with pupils, or upon simple stories and rhymes with which the pupils are familiar, should be read from the blackboard. Action-sentences may also be introduced early in the course. Later on books should be used. Pupils should be taught to read ideas and thoughts, not words. Thought-getting should *precede* thought-expression. This can usually be developed by judicious questioning by the teacher, and by silent reading by the pupil. This course will ensure good expression. Expression is the result of thinking and imitation. In case the pupil really thinks and feels what he tries to express and fails to express it adequately, the teacher may occasionally express it for him, even exaggerating the points which were weak in the pupil's reading. Later in the course, the pupil should not only grasp the sentence-thoughts one by one, but he must be taught to think sentence-thoughts together into a larger whole. Back of even the most simple group of sentences is a larger thought or picture, in the development of which each sentence plays its part. Whether the pupil gets these larger thoughts will depend largely upon the way in which the teacher conducts the work. In order to read sentences correctly, the practice of reading but one sentence at a time should be avoided.

Phonic Exercises :

While the word or other sight method is being used for teaching the reading of sentences, lessons should be given daily on the sounds of single letters and combinations of letters. The correct enunciation of letter-sounds in combination is exceedingly important, both as a drill in articulation and as a preparation for word recognition. The first sounds taught should be such as are (1) easily made, (2) easily prolonged

without alteration in character, (3) common to many words in the vocabulary of the child. The combinations should be such as are (1) easily learned as wholes, e.g.; *sh*, *th*, *or*; (2) useful for reading e.g.; *ing*, *tion*, *ight*. The sounds of letters should be developed from familiar "sight" or "key" words e.g.; *c* from *cat*, *r* from *rat*. Diacritical marks should be avoided as much as possible.

As a preparation for the recognition and pronunciation of new words, the teacher should slowly sound words which the pupils will recognize by ear. Words taught by the phonic method should be introduced into the sentence-reading very gradually, so that the expression may not suffer. In time, as the pupil's perception of the blending of sounds to form words grows quicker and clearer, the words occurring in the reading matter should be recognized, as far as possible, by sounds. Before leaving this grade, the names of all the letters of the alphabet should be known in order.

Stories

These make a good preparation for reading by arousing the child's interest, holding his attention and stimulating his thought. They thus serve to make learning to read a real pleasure.

Rhymes

These are a rapid and effective means of acquiring an initial stock of sight-words by associating the spoken word which has meaning to the child with the printed and written forms. On the other hand the building up of a vocabulary of disconnected words leads to mechanical reading.

Pictures

They help to attract attention, arouse interest and stimulate thought. A good picture contains the "kernel" of the story which the child is expected to read from the text. Its study, therefore, should be a preparation for reading. The teacher, by questions and suggestions should direct the observation and thought of the pupil.

Dramatizing

The dramatizing faculty, which is natural in most children, may be made an important agency in the successful teaching of reading. Instead of simply reading what the actors of the story do or say, the children, as actors, do and say those things themselves. The resulting acts and speech show spontaneity and originality and hence are natural and expressive. Reading thus becomes realistic.

Reading to the pupils

Selections for this purpose may, at first, include such nursery rhymes as "Mother Hubbard," "Cock Robin," simple

stories of child life, anecdotes of animals, the simpler folk stories, such as "The Three Bears." Later on the selections may include simple narrative poems such as "The Owl and the Pussy Cat," "Who Stole the Bird's Nest?" The simpler of Andersen's tales. A number of the best Primers should be placed in the school library for supplementary reading.

Memorizing

At least four lines of poetry, or an equivalent amount of prose, should be committed to memory each week. The selections chosen for this purpose may be such as the following: "Twinkle, Twinkle Little Star," "Little Drops of Water," "What Does Little Birdie Say,?" "Now the Day is Over."

Grade II. or Senior I.

Assignment of Work

The authorized First Reader. Reading to the pupils, Supplementary reading from other readers and from selections corresponding to this grade. Sight reading, exercises in breathing, articulation and vocalizing, Memorizing.

SUGGESTIONS.

Reading and Literature

The reading lessons proper should be preceded by, (1), such conversations as may be necessary to prepare the minds of the pupils for the appreciation of the subject matter; (2) exercises that will ensure the prompt recognition of the form, the correct pronunciation, and an understanding of the meaning of new words. The meaning of new words should be acquired without attempting formal definitions. To encourage thoughtful reading and to ensure ease in reading aloud, silent reading should usually precede oral reading. In training pupils to get the full thought without the aid of oral reading, the teacher may require them to state the substance of what has been read silently. In order that the pupil may learn to read poetry with pleasure it is sometimes desirable that the teacher should read the poem to them first.

Phonic Exercises

The aim of phonic training in this grade should be to cultivate (1) distinct articulation, (2) pure tone, and (3) the power to read new words and to pronounce them correctly. The exercises should include drills on initial and final consonants, e.g., *t* in *cat*, *ts* in *cats*, *d* in *and*; and practice in the correct

sounds like *oi* in *soil*, *u* in *just*, *ir* in *girl*, etc., and *ness*, *ment*, *ing*, etc., as final syllables.

Supplementary Reading

- (a) To be read aloud by the teacher : Selections from Whittier's "Child Life," stories of animal life ; folk stories and fairy tales, e.g., "Sleeping Beauty," Andersen's "Ugly Duckling," Longfellow's "Hiawatha" "Cheiron," "King Arthur."
- (b) To be read by the pupils : In addition to the authorized Reader, the reading of this grade should include other Readers of similar grade ; simple poems, fables and folk stories, e.g., Stevenson's, "A Child's Garden of Verses" (first part), Scudder's "Fables and Folk Stories." Occasional exercises should be given in sight reading.

Memorizing

At least four lines of poetry each week, or an equivalent amount of prose, should be committed to memory by each pupil. Selections may be made from the following : "The Swing," "The Little Nut," "Christmas Morning," "What I should do," "The Bright Side," "October's Party," "Spring," "Evening Hymn."

Grade III. or Junior II.

Assignment of work

The authorized Second Book, (first part)—Supplementary reading from other readers and books appropriate to this grade. Reading to the pupils. Use of dictionary begun, Phonic drill continued. Exercises in breathing, articulation and vocalization. Use of library.

Reading and Literature

The reading lesson proper should be preceded by only such conversations as may be necessary to prepare the minds of the pupils for the proper appreciation of the subject matter. The teacher should bear in mind that correct expression in oral reading is dependent upon the reader's appreciation of the thought and feeling. In all reading lessons the teacher should occasionally read aloud, not for the purpose of direct imitation by the pupils, but to increase the interest in the subject matter and to set a standard of good oral reading.

The meaning of Words

Pupils should be trained to depend largely on the context for the meanings of words and be trained in the intelligent use of the dictionary.

Phonic drill

Exercises on the production of sounds of letters, particularly on the sounds of the vowels and of groups of consonants difficult of enunciation.

Supplementary Reading

- (a) To be read aloud by the teacher: The selections may include simple and interesting poems by Cowper, Wordsworth, Longfellow, Whittier, Tennyson; stories of animals, such as Thompson-Seton's; myths in good literary form, such as Firth's "Stories of old Greece;" "The Argonauts;" "Beauty and the Beast;" "The Ware-Wolf" and a long story to cultivate the power of sustained interest, such as Sewell's "Black Beauty."
- (b) To be read by the pupils: In addition to the authorized Reader, several books suitable to this grade should be read by the pupils, such as Stevenson's "A Child's Garden of Verses" ("The Child Alone," "Garden Days"); Andrew's "Seven Little Sisters," and books to supplement the work of this grade in other subjects.

Memorizing

A minimum of six lines per week. Selections may be made from the following: "Morning Hymn," "A Wake-Up Song," "The Land of Nod," "One, Two, Three," Psalm XXIII.

Grade IV. or Senior. II.

Assignment of Work

The authorized Second Book (last part). Supplementary readers and other books suitable for this grade. The meanings of words. Reading to the pupils. Exercises in breathing, articulation, and vocalization. Use of the library.

SUGGESTIONS

Reading and Literature

See suggestions under "Grade III."

Supplementary Reading

- (a) Reading to the pupils: Browning's "Pied Piper of Hamelin;" myths in good literary form, such as Kupfer's "Stories of Long Ago;" Hawthorne's "Wonder Book;" nature stories; stories from the Old Testament; and a long story to cultivate the power of sustained interest, such as "Alice in Wonderland," or "Rab and His Friends."

(b) Reading by the Pupils : In addition to the authorized Second Reader, several books suitable to this grade should be used for supplementary reading, such as other school readers ; Andersen's "Fairy Tales" parts of "Gulliver's Travels," and "Robinson Crusoe ;" legends and tales of adventure ; Ruskin's "King of the Golden River ;" and books to supplement the work in other subjects.

Memorizing

A minimum of six lines per week. Selections may be made from the following : "Little Lamb, Who Made Thee," "Abide With Me," "March," "September," "The Sluggard," "The Wind," "Indian Summer," "All Things Bright and Beautiful," Proverbs and maxims.

Grade V. or Junior III.

Assignment of Work

Intelligent and intelligible natural reading. The authorized Third Reader (first part). Supplementary reading. Use of the dictionary taught and practised. Exercises in breathing, articulation and vocalization. Use of library books.

SUGGESTIONS.

Reading and Literature

Special attention should be given to the literature of the poetical selections of the authorized Reader.

For suggestions concerning expression, etc., see preceding grades. The occasional use of a book from the school library from which the pupils read by turns will improve the character of the oral reading and at the same time train the pupils to listen intently.

Drill exercises, as in preceding grades, particular attention being given to distinctness of enunciation, correctness of pronunciation, and proper use of the voice, in speaking and reading.

Supplementary Reading

The following may be used for Supplementary Reading : Longfellow's Hiawatha (complete); Stockton's "Fanciful Tales," and books to supplement the work of this grade in nature, geography, history and hygiene, such as Burrough's "Squirrels and other Fur-Bearers," Kipling's first "Jungle Book," Kingsley's "Greek Heroes," Miller's "Brief Biographies Supplementing Canadian History."

Memorizing

The minimum number of lines should be six per week. Selections may be made from the following: Carlyle's "To-Day," Stevenson's "A Morning Prayer," Garrick's "Hearts of Oak," Darnell's "The Maple," "Wisdom the Supreme Prize" (Proverbs III), Tennyson's "The Book."

Grade VI. or Senior III.

Assignment of Work

Intelligent and intelligible natural reading. The authorized Third Reader (second part). Supplementary reading. Study of special selections as literature. Use of the dictionary. Exercises in breathing, articulation, and vocalization. Use of the school library books.

SUGGESTIONS.

Reading and Literature

Generally, the first reading of a selection chosen for appreciative study should be rapid, in order that the pupils may get a conception of the piece of literature as a whole; part of the reading may be done by the teacher, part by the pupils in class, and part by the pupils at home. During the second reading of it, only those difficulties which stand in the way of essential meanings should be considered; attention should be given to the thought and feeling expressed rather than to the form of the selection.

Drill exercises on expression, articulation, etc., as in the previous grades.

Supplementary Reading

Books suited to pupils of this grade may be used, such as Goldsmith's "Deserted Village"; Lamb's "Adventures of Ulysses"; Hawthorne's "Wonder Book"; and books to supplement the work of this grade in nature, geography, history and hygiene, such as Burrough's "Birds and Bees". The power of sustained interest is cultivated by the reading of long selections of complete works of considerable length. See suggestions under preceding grades.

Informal talks on books read at home, with a view to arousing an interest in good reading, are of great value. In recommending books, the teacher should try to direct the reading tastes and interests of the individual pupils along the lines of the best literature.

Memorizing

The minimum number of lines to be memorized should be six per week. Selections should be made from poems previously taught, such as Wilfred Campbell's "After Glow"; Moore's "The Last Rose of Summer"; Newman's "Lead Kindly Light"; Bryant's "The Gladness of Nature" Tennyson's "The Bugle Song", and "Crossing the Bar", Whittier's "The Life for Which I Long".

Grade VII. or Junior IV.

Assignment of work

Intelligent and intelligible natural reading—Fourth Reader, (first part) appreciative reading of at least one masterpiece of prose and one of poetry. Ethical lessons. Use of library books.

SUGGESTIONS.

Reading and Literature

The following is suggested as a general plan for the appreciative reading of a masterpiece of literature :

- (1) Reading for general conception ; some portions read by the teacher for the purpose of creating a right atmosphere ; other portions read aloud by pupils in class ; minor portions read by pupils at home.
- (2) Reading for the more careful treatment of important parts, the aim being to bring about an appreciation of the beauty of the selection rather than to accumulate a fund of information concerning words or allusions.
- (3) Reading for effective oral rendering of those parts of the selection which make special appeals to the pupils' imagination and sympathy.

Supplementary reading

The following are suggested, in addition to the Reader, for supplementary work : Longfellow's "Courtship of Miles Standish," and parts of "Tales of a Wayside Inn ;" Irving's "Rip Van Winkle," and "Sleepy Hollow ;" Hawthorne's "Great Stone Face"; Scott's "Lady of the Lake." Also books to supplement the work of this grade in nature, geography and history.

Memorization

Minimum number of lines should be eight per week. Selections may be made from the following which should be first studied

carefully in class : Kipling's "The Children's song"; Shakespeare's "Ingratitude;" Robert's "Canada"; Lampman's "In November"; Cowper's "I would rather enter on my list of friends"; Moore's "Oft in the Stilly Night."

Grade VIII. or Senior IV.

Assignment of work

Intelligent and intelligible natural reading. The authorized Fourth Reader (last part). Supplementary reading, appreciative reading of selections from the Reader, and of at least one masterpiece of prose and one of poetry. Exercises in breathing, articulation, and vocalization. Memory work. Use of library books.

SUGGESTIONS.

Reading and Literature

The general plan for the reading of masterpieces as outlined in the preceding grade is recommended. The pupil's knowledge of grammar may be used to make clear constructions that may be obscure or complex but the analysis should not be permitted to detract from the appreciation of the beauty of the selection.

The simpler "figures of speech," such as simile, metaphor, personification, should be brought to the notice of pupils as illustrations of them occur in their reading; the effect of these figures on the clearness, the emphasis, or the beauty of style should be noted.

Supplementary reading

The careful reading of at least four suitable works selected by the Principal, for each pupil, from a list of supplementary reading in English literature prepared by the Public School Inspector.

Memorization

The minimum number of lines should be eight per week. Selections may be made from such as the following: Thomson's "Rule Britannia"; "The Commandment and the Reward" (Proverbs III); Lampman's "Evening"; Collins' "How Sleep the Brave Who Sink to Rest"; "God is Our Strength" (Ps. 46); White's "Mysterious Night," etc.

General Suggestions

SPELLING

A lesson in spelling should be *taught* each day. Ten new words are enough for a lesson and no new word should be taught until the pupils know its meaning and can use it properly in a sentence. All unfamiliar words unsuited to the age and ability of the child should be excluded. All new words or words presenting difficulty in the pupils' written English, should be taught.

In teaching derivatives and compounds, attention should be drawn to the way in which the word is built up, so that the child may recognize the smaller and more familiar word contained in the larger. Emphasize also, by means of colored chalk, or by some other device, the difficult part or parts in a word, e.g., the first *a* in *separate* and thus direct the attention of the pupil, particularly to that part. Train senior pupils to examine a new word, with a view to finding out and mastering its difficulty.

Pupils should be taught how to use the dictionary, and to do so always when in doubt as to the correct spelling of a word they may wish to use. Inculcate the habit of correct spelling by insisting upon it in all written work done by the pupils. Arouse enthusiasm for correct spelling by keeping a record of the progress of the class in the subject, and by an occasional spelling match between classes or parts of classes. Each pupil should keep a permanent record of his mis-spelled words for review.

Grade I. or Junior I.

The writing from dictation of (a) Simple phonetic words recognized by the pupils, (b) Non-phonetic words commonly used by the pupil in writing. Neat transcription of words or sentences written on blackboard. Use of capitals in spelling: (1) proper names, (2) the first word of a sentence, (3) the pronoun I. The dictation of simple sentences containing the words taught. Word building for seat work. Distinct enunciation should form a basis for correct spelling. Oral spelling should not be required till near the end of this grade. Weekly reviews.

Grade II. or Senior I.

Daily written and oral drill in: phonetic words containing such combinations as, bl, sk, etc; phonetic words, properly grouped, selected from Reader and from the pupils' written English; simple non-phonetic words, properly grouped, selected from Reader and from the pupils' written English. Frequent reviews of lists of words commonly mis-spelled by the pupils and the use of these in sentences constructed by the pupils. Dictation exercises embodying the words taught. Weekly reviews.

Grade III. or Junior II.

Oral and written drill on : Words in which pupils substitute or omit sounds, e.g. chimley for chimney, east for yeast. Words selected as in previous grades—List to include derivatives formed from words ending in silent e, for example move, moving. Teach the rule governing these. The simplest homonyms, such as hear, here ; their, there ; threw, through. Use of capitals ; first line of poetry ; days of week. Abbreviations as outlined in the composition for this grade. Dictation exercises embodying the words taught. Weekly reviews.

Grade IV. or Senior II.

Continued practice in phonics on points previously taught. Teach use of the common diacritical marks, to prepare pupils to use the dictionary. Oral and written spelling of words from lessons in Reader and from other subjects taught in this grade. Homonyms, e.g. hair, hare ; bury, berry ; flower, flour. Derivatives—Teach formation of derivatives from words ending in a single consonant preceded by a short vowel, e.g. begin, beginning ; occur, occurred. Teach groups of words formed from the same root, e.g. drive, driver, driven, driveway ; bisect, trisect, dissect, section. Teach use of apostrophe in abbreviations and in the possessive case, as outlined in the composition of this grade, e.g. I'm, John's. Teach abbreviations for months, days and those occurring in the other subjects of this grade. Plurals:—Teach change of y to i and f to v in plurals. Dictation exercises containing the words taught. Weekly reviews.

Grade V. or Junior III.

Oral and written work. Words selected from the reading lessons and from words technical to the other subjects taught in this grade. A Speller containing such a list of words may with advantage be introduced in this grade. Dictation exercises from selected lessons in Reader. Homonyms—Review and extend work of previous grades. Formation of derivatives from words ending in "y" preceded by a vowel or consonant, e.g. monkey, monkeys ; merry, merriest ; busy, busily. Capitals and abbreviations reviewed and continued. Simple prefixes and suffixes un, dis, less, ful and the spelling of words in which these are used e.g. disobey, dissolve. Teach the rule governing these.

Grade VI. or Senior III.

Oral and written work. Words selected in the same manner as in Grade V. Dictation exercises continued. Division of words into syllables. A few Anglo-Saxon roots, such as true, faith. Meaning and use of the Anglo-Saxon prefixes and suffixes mis, ness, ar, er.

Ordinary rules for spelling. The Speller should be used in this and succeeding grades.

Grade VII. Junior IV.

Oral and written work. Words selected in the same manner as in Grade V. and words in common use. Dictation exercises to review and extend the proper use of capitals and abbreviations. Anglo-Saxon prefixes—out, fore ; Anglo-Saxon suffixes—ly, ling, ish, en, ship, dom; Latin prefixes—con, sub, re, trans ; Latin suffixes—ous, or, ist. Review special features of former limits, such as, homonyms, abbreviations, syllabic analysis and formation of derivatives. Formation of possessive singular and plural. Dictation exercises ; reviewing the work of this and previous grades.

Grade VIII. or Senior IV.

Oral and written work. Words selected as in previous grades. Dictation exercises to place words having the same sound but different meanings in their correct setting. Review of rules taught in previous grades for spelling of derivatives. Review of common words frequently mis-spelled. Prefixes and suffixes continued. The more important Latin and Greek roots with their English derivatives. Dictation exercises reviewing the work of this and previous grades.

COMPOSITION AND GRAMMAR.

Grade I, or Junior I.

Mainly oral composition.

Material for lessons :—conversations, stories, familiar objects, games, rhymes.

Talks about pet animals, birds, leaves, flowers ; interesting incidents within the pupils' experience ; particular days : as Christmas, New Year's day, Easter ; the seasons.

Reproduction of bright stories and fairy tales.

Memorization of simple, short, poems ; nursery rhymes and apt sentences.

Personating the characters in stories.

In the primary grade, the compositions should be brief and very little written composition should be attempted, until the children have attained proficiency in writing and in oral composition.

Every lesson should be a lesson in language and correct expression. The pupil should not be repressed, but by kindness and appreciative manner, should be encouraged to talk freely and fluently.

In oral work, note incorrect expressions, faulty articulation, and wrong use of words. At other times drill systematically and frequently on enunciation and the forms that should have been used.

Grade II, or Senior I.

Review and continuation of work of Grade I.

Telling aloud brief interesting stories ; talks about actions, incidents, familiar objects and nature work ; lessons chiefly oral and mainly narrative.

Stories and talks about our domestic animals, trees, dwellings, foods, occupations and seasons.

Reproduction of stories, real and imaginary; personating characters in the story; telling stories suggested by pictures; completing stories.

Memory gems.

Teach the names of the days of the week, the months, the seasons, particular days ; such as, Thanksgiving day, Christmas, New Year's day, Good Friday, Empire day, Dominion day.

Teach Christian name, surname, full name, initials, pupil's address ; the simpler forms of plurals by adding s and es ; the use of personal pronouns.

The proper use of a, an ; there, their ; lie, lay ; sit, sat, set ; write, right ; here, hear, heard ; went, gone ; give, gave, given ; did, done ; saw, seen.

Written work ; easy transcription from the reader, with attention to capitals and punctuation, as period, question mark.

Combining two simple statements.

Reproduction of very short stories and fairy tales, after oral expression of the thoughts and proper arrangement of same.

Writing their own brief stories from dictation.

Drill persistently on proper forms of expression, to correct errors in speech made in oral composition.

Grade III. or Junior II.

Review and continuation of Oral and Written Work, as outlined for Grade II, and in connection with Geography, History and Nature Study.

Development of good models of composition, especially letters. Oral description and then written description of familiar places, objects, and pictures ; reproduction of stories told or read.

Practise simple letter writing.

Memorize good selections from literature.

Capitals : names of persons, places, the deity, days, months, titles ; the first word in a sentence ; the first word in a line of poetry.

Punctuation : period, question mark, quotation marks, comma before quotation marks ; the use of the apostrophe to denote possession.

Abbreviations: Mr., Mrs., Dr., Co., Ont., Rev., Prov., No., Esq., Sr., Jr., can't, don't, doesn't, wasn't, I'll, N., S., E., W., days of week and months of year—as, Mon., Jan.

Addresses: Pupil's name, street, city or post office and province; teacher's name and address.

Proper use of this, these; that, those; come, came; sang, sung; rung; who, which; much, many; easy homonyms: flour, flower; week, weak; threw, through; cells, sells; sees, seize; by, buy; cent, sent, scent.

Grade IV. or Senior II.

Review work of previous grades. Careful copying of good sentences, brief model letters, short compositions and memory gems. Oral reproduction of stories; short original stories. Short narratives or easy descriptions of one paragraph.

Oral expression of individual thoughts of pupils on one topic only, order of arrangement of these, combination of the same by one pupil orally under two headings. Written composition to follow oral composition in connection with each subject.

The arranging and writing of thoughts in two paragraphs.

Letter writing continued. Repetition of proper forms to correct common errors in use of words. Punctuation: review, give use of comma in a series and after address.

Grade V. or Junior III.

Review Language work of previous grades.

Continuation of oral work outlined for previous grades; talks by pupils on topics assigned to or chosen by pupils; experiences, observations, objects, pictures, stories, autobiographies.

Correction of English: drill on use of proper forms, to correct pupils' errors.

Have pupils think about a subject and make statements orally. Classify these into two paragraphs. Arrange the sentences in proper order.

Written work: narrative and descriptive composition and letter writing continued. The arrangement of sentences in paragraphs by combining thoughts mentally, expressing them orally and then on paper in proper sequence. The rearrangement of words and phrases; expressing the same idea in other language.

Enlargement of vocabulary: develop accuracy and variety of expression by substituting groups of words for single words and *vice versa* and by proper choice of synonyms. Teach uses of sit, set; did, done; doesn't, don't; lie, lay, laid; there, their; begin, do, got, wear, choose; who, whose, whom.

All rules for Capitals; simple uses of semi-colon and colon.

The sentence; the assertive, interrogative, imperative and exclamatory forms of sentences; Subject and Predicate of these different kinds of simple sentences; identification of the Noun and Verb.

Business forms; simple bill, receipt and order for goods.

Grade VI. or Senior III.

Review, continue and extend the work of the previous grades; correction of errors as indicated in previous grades. Memory selections. Study of choice passages of Literature, narrative or descriptive. Enlargement of vocabulary; proper choice of synonyms and antonyms; writing stories illustrative of the use of given groups of words. Longer talks by pupils; the proper arrangement of these thoughts; combination, orally, of these thoughts under two or more headings.

Oral and written reproduction of longer stories with attention to the unity of the paragraphs; passages to be separated into two or more paragraphs. The continuity of the paragraph. Give selections in which the thoughts are not related in good order and have pupils arrange these properly.

The arrangement and rearrangement of the parts of the sentence for effect; changing from direct to indirect narration.

Letter writing of two or three paragraphs applying the above principles with attention to capitals and punctuation.

Simple business letters, notes, invitations, replies, bills, receipts and orders.

Grammar

Text books should not be used.

Analysis of simple sentences; identification of the different parts of speech, and of adjective and adverbial phrases.

Gender, number and case forms.

Grade VII. or Junior IV.

Composition.

Oral and written work of previous grades continued and extended. Reproduction of stories containing two or more paragraphs, including anecdotes and autobiographical sketches. Letter-writing and business forms of previous grades continued, giving much attention to clearness of thought, freedom of expression, correctness of form and choice of words.

Formal notes of invitation and replies. Business letters, promissory notes.

Original composition, choice of words, synonyms, antonyms and homonyms. Paragraphing as in previous grade. Proper use of capital letters and punctuation marks in all exercises. By repeated

use of proper forms correct errors in the use of : teach, learn ; rise up, have got, return back. Exercises in direct and indirect narration ; the value of the words, phrases and clauses ; the re-arrangement of the same ; substituting words. Combining three or more statements into (a), a simple sentence, (b), a compound sentence. Abbreviations and contractions—the simple abbreviations and contractions in common use reviewed and completed.

Grammar.

Analysis of simple, and easy compound and complex sentences. Identification of all the Parts of Speech.

Classification of Parts of Speech :—

- (a) Noun—proper and common : gender-nouns.
- (b) Pronouns—personal, demonstrative, interrogative, relative, indefinite.
- (c) Adjective—qualifying, quantifying, proper.
- (d) Adverb—of time, of place, of manner, of degree.
- (e) Verb—transitive and intransitive.

Inflections of the Parts of Speech.

- (a) Noun—number and case.
- (b) Pronoun—person, number, gender, case.
- (c) Adjective and adverb—comparison.

Parsing—classification and inflection as given in this limit ; grammatical relation.

Phrases—adjective and adverbial with relation ; identification of noun, adjective and adverbial clauses.

Emphasize the proper forms and relations of words to correct common errors of speech.

Grade VIII. or Senior IV.

Oral and written work :

Oral work continued and extended to include (a) general discussion of simple topics, (b) current events, (c) debates on easy subjects.

Review work of previous grades in abbreviations, contractions, punctuation and capitalization.

Summaries of lessons in Literature and History ; biographical sketches.

Social and business correspondence, advertisements, business forms.

Essay writing, giving special attention to paragraph structure, unity of idea, continuity of thought and variety of form.

Clear, vivid, and detailed description. Arrangement of sentences and parts of sentences.

Exercises in (a) expansion and contraction of phrases and clauses. (b) active and passive construction. (c) transposition of words, phrases and clauses. (d) combining three or more simple statements, to form a simple, a compound, or a complex sentence.

Enlargement of Vocabulary :

Continue exercises in use of synonyms, homonyms, antonyms and choice of words. Exercises to incorporate new words or groups of words.

Meaning and use of prefixes, suffixes and roots most commonly used.

Grammar.

Analysis of simple sentences and of compound and complex sentences of not more than four clauses.

Classification, inflection and relation of the Parts of Speech, completed.

Parsing of words.

Classification and relation of phrases.

Classification and relation of clauses.

Elementary principles of syntax.

HISTORY.**General Suggestions.**

In preparing this public school course in History, the aim has been to present material at each stage which appeals to the sympathy and interest of the child, and is of such a nature as to suit his mental capacity and development at that stage of his life and education. In the first four grades, the work consists of the presentation of (1) Bible characters ; (2) the presentation of conditions of primitive society and its gradual growth and development ; and (3) the consideration of the reasons for the celebration of special holidays which appeal to the interest and patriotism of the child. In the first grade, the work consists of the consideration of the child-life of individuals that have endeared themselves to the hearts of childhood, and that present ideals in conduct and character which are worthy of imitation. In the second grade, hero-worship appeals to the child, hence the heroes selected are of such a nature as will be wholesome ideals for the life of the child, and lead him to see the possibilities of the individual. In the third grade, this is followed by the consideration of stories of companionship—the first steps in the formation of society, and this is a slightly more complex consideration than that of the life of the individual. This has been followed in the fourth grade, by the consideration of the building up of a more complex society, reference being made (1) to the development of the Hebrew nation from the life of an individual through the family, the tribe and the loosely connected tribes to the fully organized nation ; (2) how individuals placed under the simplest primitive conditions, can surround themselves with many of the comforts of society ; and (3) the development of the specialized conditions of modern society from the

primitive conditions of the life of the early settler to the specialized conditions of a populous modern community. In the fifth and sixth grades, provision has been made for the presentation of individual lives and special events in the history of our own country and nation, thus laying a basis for a logical consideration of Canadian and British History in the seventh and eighth grades, which will lead the pupils to know the story of the rise and growth of the cherished privileges and institutions of our nation, to know of the struggles by which they were won, and be able to form a correct estimate of their value.

General for Grades I., II., III., IV.

In these grades, more attention should be given to the correlation of studies, and history should scarcely stand out as a distinct subject. The stories selected should be so arranged as to show the development of the race from its primitive condition to that of the present day, and should provide stories suitable to the development and knowledge of the pupils. The choice of stories, the manner of telling, and the lessons deduced will tax the skill of the best primary teacher.

Grade I. or Junior I.

The following is suggested for this grade:—(1) Bible Child-life; Moses, Joseph, Samuel. (2) Primitive life; The Eskimo, the Indian; Backwoods Life in Canada. (3) Special Days; Thanksgiving, Christmas, Easter, Arbor Day, Dominion Day.

Grade II. or Senior I.

The following is suggested for this grade:—(1) Bible Heroes: Gideon, Samson, David, Goliath, Esther. (2) Heroes from profane History: Horatius, King Alfred, Richard I., Wallace, Uncle Tom, Grace Darling, Little Peter. (3) Special Days: Same as Grade I.

Grade III. or Junior II.

The following is suggested for this grade:—(1) Bible Friendships: Adam and Eve, Abraham and Isaac, Miriam and Moses, Ruth and Naomi, David and Jonathan. (2) Friendships from profane History: Damon and Pythias: (3) Development from Primitive Conditions: The Pilgrim Fathers, The United Empire Loyalists. (4) Special Days: Thanksgiving, Christmas, Easter, Empire Day, Dominion Day.

Grade IV. or Senior II.

The following is suggested for this grade:—(1) Bible characters, developing a nation: Abraham, Moses, Joshua. (2) Development of complex social relations from Primitive conditions: Primitive conditions among first Canadian Settlers, Formation of a Village, Specialization

of occupation, Growth of a Metropolis. (3) Inventions: Watt, Stephenson, Fulton, Edison. (4) Special Days: Same as Grade III.

General Suggestions for Grades V. and VI.

In Grades V. and VI. there should be no attempt to give a thoroughly logical, connected history of either the country or its people, but by means of vivid biographical sketches and interesting accounts of important conditions and events, taken in chronological order, to lay in story, a valuable basis for the future study of British and Canadian History.

Grade V. or Junior III.

The following is a suggestive list in Canadian History:—Our Native Country, The First Inhabitants, Columbus, John and Sebastian Cabot, Cartier, Champlain, The Jesuit Fathers, The Coureurs du Bois, Laval, Frontenac, La Salle, Daulac, Madeleine de Vercheres, Wolfe, Montcalm, Pontiac, Vancouver, Fraser, Selkirk, The Hudson Bay Company, Brock, Tecumseh, Laura Secord, Simcoe, The United Empire Loyalists, William Lyon Mackenzie, Durham, Ryerson, George Brown, Howe, John A. Macdonald, Alexander Mackenzie, Canadian Pacific Railway, Strathcona, Laurier.

Grade VI. or Senior III.

The following is a suggestive list in British History:—The British Isles, Julius Caesar, Caractacus, The Anglo Saxons, Augustine, Alfred the Great, William the Conqueror, à Becket, Richard the Lion-Hearted, Langton, Simon De Montfort, Robert Bruce, The Black Prince, Chaucer, Wyclif, Wat Taylor, Joan of Arc, Caxton, Warwick, Cardinal Wolsey, Cranmer, Elizabeth, Knox, Raleigh, Drake, Armada, Shakespeare, Hampden, Oliver Cromwell, The Puritans, William III, Marlborough, Bonnie Prince Charlie, Wesley, Wm. Pitt, Clive, Washington, Nelson, Wellington, Scott, Wilberforce, Victoria, Havelock, Gladstone, Chinese Gordon, Tennyson, Roberts, Edward VII.

General Suggestions for Grades VII. and VIII.

History is based on facts, not mere isolated facts, but facts in their proper relation of time, place and accompanying conditions, hence the suggestion that the history be developed in conjunction with its surroundings at each stage so as to give the pupils some definite knowledge of the conditions under which the events took place: e. g. in Canadian History, in the Indian and Discovery periods there is comparatively little to teach. The principal points are, in the former, the nature of the country and a description of the native Indian; his chief occupations, fishing and hunting and the tribal wars; in the latter a description of the discoverers as to nationality and religion, their

bravery, their purpose in coming, and the trade they carried on with the Indians. The following periods, however, witnessing as they did growth and development, furnish material for more extended lessons under all the topics named. The industrial progress, the development of trade, the struggle for self-government, the system of free education, the inflowing tide of immigration, the constantly enlarging territory with its ultimate union under confederation, the enactment of laws dealing justly with peoples of different nationalities and religions, the necessity of maintaining friendly relations with the great nation to the south of us and at the same time ever strengthening the bond of connection with the Mother Land, give ample scope to make the teaching of Canadian history not only interesting but of real value.

A similar treatment of British history, under topical heads during well defined historical periods, will give like satisfactory results, for, history is the record of a nation's life.

In the seventh and eighth grades the work is outlined in monthly instalments, beginning the academic year in September. If the promotions are made at a different time a corresponding change must be made.

Grade VII. or Junior IV.

Canadian History.

September :—In presenting the general outline of the whole of Canadian History in the first month, the proportion of time covered by each of the subdivisions named should be taught by diagram and the historical characters taken up in a previous grade should be reviewed and placed in their chronological divisions. Also in teaching this outline dwell upon the causes that led to the change indicated by each successive subdivision outlined with consequent results on the condition of the people.

Subdivisions or Periods.

- I. Indian (including Mound-Builders).
- II. Discovery.
- III. French.
- IV. British.
 - (1) Military Rule, 1759-63.
 - (2) Growth of Constitution, 1763-74-91.
 - (3) Parliamentary Government, 1791-1841.
 - (4) Responsible Government, 1841-67.
 - (5) Confederation, 1867—

October :—Show that the prosperity and growth of a new country depend on the following :—

- (a) Character of Country and Settler and rate of increase in immigration.
- (b) Occupation of the people and Industrial Progress.
- (c) Trade and Commerce.
- (d) Educational facilities and Religious Freedom.

(e) Form of Government and Administration of Justice with extent of territory affected.

(f) Relation to the Mother Land and to the adjacent nations. And develop these topics as they apply to subdivisions I. and II. of outline for September.

November :—Develop the topics of the October outline as they apply to subdivision III. of September outline.

December :—Develop the topics of the October outline as they apply to subdivision IV. in September outline down to the year 1812.

January :—Develop the topics of the October outline as they apply to subdivision IV. in September outline for years 1812-1841.

February :—Develop the topics of the October outline as they apply to section (4) of subdivision IV.

March :—Develop the topics of the October outline as they apply to section (5) of subdivision IV.

April :—Civics—Review topic (e) of October outline and give careful attention to the form of our Federal Government ; the composition and powers of the Senate, House of Commons and the Cabinet ; the duties of the Governor-General and the Premier ; the parliamentary terms in common use as adjourn, prorogue and dissolve parliament. The same as applied to the Government of Ontario. Specify the respective jurisdiction of the Federal and the Provincial Government.

May :—Civics—Review topic (e) of October outline and give careful attention to Municipal Government ; the composition and powers of county, township, city, town and village councils ; Board of Education and Public School Trustees ; the method of electing them ; the titles of their presiding officers and the manner of their selection.

June :—Teach more fully topic (e) of October outline as regards the Administration of Justice under the following heads :—Names of the various courts; appointment of judges and their tenure of office ; appointment of sheriffs, magistrates and police.

Present any one topic more fully in order to inspire the pupils to more extended historical reading.

General Review.

Grade VIII. or Senior IV.

British History.

September :—General outline, including origin of English language, leading to the following subdivisions.

(a) Early Britons.

(b) Romans.

(c) English.

(d) Danish.

(e) Norman.

(f) Plantagenets.

(g) Lancastrians.

(h) Yorkists.

- (i) Tudors.
- (j) Stuarts.
- (k) Hanoverians.

In presenting this general outline of the whole of British History in the first month, the proportion of time covered by each of these subdivisions should be taught by diagram and the historical characters taught in the previous grades reviewed and placed in their chronological divisions. Also in teaching this outline the causes that led to each successive change in ruling power with consequent results on the condition of the people should be emphasized.

October :—Show that the Social condition of the people results from :—

1. The form of Government, including administration of justice, showing the gradual supremacy of the people as reached in the present form of Responsible Government.
2. The development of Religion and the relation of Church to State.
3. The development of Education and growth of Literature.
4. Natural Resources and Industrial growth.
5. Commercial Development leading to Commercial Supremacy. and develop these topics as they apply to the Early Briton, Roman, English and Danish periods.

November :—Develop the topics of the October outline as they apply to the Norman, Plantagenet, Lancastrian and Yorkist periods.

December :—Develop the topics of the October outline as they apply to the Tudor period.

January :—Develop the topics of the October outline as they apply to the Stuart period.

February :—Develop topics 1 and 2 of the October outline as they apply to the Hanoverian period.

Give special attention to the great reforms of this period.

March :—Develop topics 3, 4 and 5 of the October outline as they apply to the Hanoverian period.

Give special attention to the great inventions of this period, particularly those connected with steam and electricity.

April :—Teach England's Home, Colonial and Foreign policy and the growth of Greater Britain.

Teach the Great Wars of the Hanoverian period emphasizing especially the Napoleonic Struggle and the Crimean War.

May :—Civics—Review especially the growth and development of Responsible National Government, Municipal Government and the British Constitution; the composition and powers of the House of Lords and House of Commons; the continuity of Sovereign rule and the relation of the various parts of the Empire to the Home Government and to one another.

June :—Review the whole course giving special attention to the events of the 19th Century. Train the pupils especially how to carry on historical research by reference to various books and documents and how to generalize and systematize the knowledge obtained.

GEOGRAPHY.

General Suggestions

The starting point in Geography must be the surroundings of the child. From this source must be drawn the ideas which the pupil must apply to the larger world outside, in order to get a conception of the world as the home of man and a knowledge of the causes which modify conditions in various parts of the world. Nearly all the topics dealt with lend themselves to the method of class discussion in which the pupil may be led to extend what he has already observed and understands about his own surroundings, to the unknown and hitherto unthought of subject under discussion. The teacher's questions should direct the pupil's observation, exercise his judgment, or stimulate his reasoning powers. The topics that may arise for discussion are as many and varied as man's activities and nature's moods and modes. They are almost unlimited and they afford the very best opportunity possible to exercise and develop the reasoning powers of the pupil. Memory must be exercised at all times, but it is largely the memory resulting from properly associated ideas, the unknown associated with the related known, and very seldom the memory necessitated by mechanical repetition. Treated in this way reason relieves the memory, the subject becomes interesting and the pupil comes to realize that he may have ideas and reach conclusions that are reliable in proportion to the accuracy of his original observations and of his reasoning.

The Map of the World, showing the British Empire, should hang on the wall of every class room.

Grade I. or Junior I.

Familiar talks on local surroundings correlating with the course in Language, Composition and Nature Study.

Grade II. or Senior I.

Assignment:

- I. Local Land and Water Forms.
- II. Maps.
- III. Directions, Time, Atmosphere.
- IV. Industrial Life.
- V. Child Life.

I. Local Land and Water Forms:

Observing of hill, valley, stream and pond and applying the ideas obtained to mountain, ravine, river, lake and any other forms mentioned in their reading books. Representation of these by means of a sand table.

II. Maps:

Drawing of maps (diagrams) of school room, playground, home grounds, roads, streets and locality.

III. (1) Directions, etc.

Right and left ; the cardinal points ; the semi-cardinal points ; directions of principal streets and roads ; location of observed objects, places and public buildings ; direction of local streams, of winds, of bird flight, of cloud movements, weather vane.

(2) Time.

Divisions of the day ; day and night ; sunrise and sunset ; morning, noon, evening ; forenoon and afternoon ; midday and midnight ; time divisions of clock-dial and reading time of day. Divisions of the year ; days, weeks, months, seasons.

(3) Atmosphere.

Observation of clouds, fog, mist, rain, hail, snow, dew and frost, leading to simple ideas of their causes. Records in simple weather calendars.

IV. Industrial Life of the Community.

- (1) Employments : Activities of the home and vicinity ; e.g. farms, shops, stores, factories, mines.
- (2) Products : of the farms, shops and factories.
- (3) Markets : observation of what is sold by farmers and farmers' wives, and of goods bought for the home. Sources of food-supply and clothing.
- (4) Transportation : wagon roads, railroads, waterways ; their benefit to all ; what is done with farm and factory products not used locally.

V. Child Life.

Stories with illustrations of child life in tropical and arctic regions.

Grade III. or Junior II.

Assignment :

- I. Land and Water Forms.
- II. Maps and Globes—Map of World only.
- III. Political Geography—Countries, Map of World.
- IV. Historical and Current.

I. Land and water forms.

- (1) Work of Grades I. and II., continued and ideas obtained from observation of local surroundings extended to mountain, peak, slope, base, range, pass, valley, glen, gorge, canyon, gulch, divide or watershed, plateau or tableland, cliff, promontory.
- (2) Study of a local stream as to origin, direction, size, work of draining, eroding and carrying, developing the application of the terms river, creek, brook, rill or rivulet, branch,

tributary or affluent ; spring, source, bed, bank, basin, channel, rapids, cataract, falls, whirlpool, mouth, bars, delta, estuary.

- (3) Study of some local body of water, or of the coast features of North America to show the meaning of the terms isthmus, strait, channel, gulf, bay, sea, sound, peninsula, cape, canal, lake, island.
- (4) Representation of the above features of land and water by drawing or modelling in sand or clay.

II. Maps and Globe.

- (1) A study of the Globe as representing the world, to develop ideas of the earth's form, size, relation to the sun, source of heat and light, rotation and the cause of day and night. Locate and name continents and oceans.
- (2) A study of the way in which the map of the world is derived from the globe, its hemispheres, the position of the cardinal points, the oceans and continents.

III. Political Geography. (Use map of World only.)

- (1) Location, on map, of the continent and country in which we live ; the Canadian Flag ; the Union Jack ; the British Empire and the location of the chief countries (British Isles, Canada, Australia, India, New Zealand, South Africa) composing it ; the King and his representative in Canada.
- (2) The nationalities of the people of the locality and the location on the map of the countries from which they came.
- (3) Discussion of journeys taken by local (or imaginary) persons leading to a knowledge of location of the chief countries of North America and Europe, the countries and waters crossed, and the land and water forms met with on these trips, e.g., isthmus, strait, channel, island, peninsula, cape, gulf, bay, sea, sound, canal, lake.

IV. Historical and Current.

The location of places mentioned in connection with the work in history and the important world events as reported in the home newspapers.

Grade IV. or Senior II.

Assignment :

- I. Political Geography.
- II. Commercial Geography.
- III. Physical Geography.
- IV. Historical and Current.

. Political :

- (1) The continent, country, province, county, township, and school section or village, town or city in which we live ; the provinces of Canada, confederation into union forming Dominion in 1867, Dominion Day.
- (2) A knowledge of the location of the principal countries of the world through a consideration of things found in the home and used for food, furnishings, or wear, e.g., raisins, currants, dates, figs, olives, oranges, lemons, prunes, bananas, nuts, tea, coffee, cocoa, chocolate, rice, tapioca, sago, salt, spices, pepper, tobacco, sugar, syrup, bread, meat, fish, oysters, vegetables, carpets, rugs, curtains, furniture, dishes, cutlery, silverware, glassware, woodenware, ivory, rubber, clocks, watches, jewellery, coal, coal oil, cotton, linen, silk, wool, boots, furs, diamonds, pearls.

II. Commercial.

Local Commerce : (1) Articles of manufacture or exchange in local factories, shops, stores and markets ; (2) Part played by local collecting and distributing centres such as implement and wholesale houses ; (3) Means of transportation: roads, railroads, waterways ; (4) Meaning of exports and imports.

III. Physical : (General notions only)

- (1) Winds ; cause, direction and force.
- (2) Nature and cause of clouds, rain, hail, snow, fog, mist, dew, frost.
- (3) Conditions affecting climate.
- (4) Systematic weather records.
- (5) Observation and record of moon's phases.
- (6) Observation and record of the changes in the position of The Great Bear in its relation to the North Star.

IV. Historical and Current :

Location of places of historical interest in the neighborhood, of places mentioned in history lessons of the grade, and of places connected with current important world events as reported in the home paper.

Supplementary Reading :

Seven Little Sisters, Andrews ; Ginn & Co., Boston. Pictorial Geographical Readers, I-III ; Longmans, Green & Co., Boston.

Grade V. or Junior. III.

Assignment:

- I. North America.
- II. South America.
- III. Ontario.
- IV. West India Islands.
- V. Historical and Current.

I. North America.

Physical: (1) Location, boundaries, coast line, coast waters.

(2) Relief, water partings and contour determined by the Rocky, Alleghany and Laurentian Systems.

(3) Slopes : Atlantic, Pacific, Northern and Southern, with important rivers in each.

(4) Basins : The Great Lakes and St. Lawrence ; Mississippi, Hudson Bay, Mackenzie and Yukon, with the important lakes and rivers of each.

(5) Ocean Currents : Gulf Stream, Japan and Polar.

(6) Climate : as determined by zones, latitude, elevations, slopes, mountain ranges, prevailing winds, ocean currents, bodies of water.

(7) Rainfall, rainless regions and irrigated districts.

(8) Special conditions which determine and affect various industries, such as agriculture, grazing, lumbering mining, manufacturing, hunting and fishing.

Commercial: (1) Production maps of North America, made by pupils, showing regions where the following are produced in quantity for the market : wheat, corn, rice, principal fruits, tobacco, cotton, wool, beef, fish, lumber, oil, coal, iron, gold, silver, copper, nickel.

(2) From memory draw map showing the divides, basins, rivers and countries and locate the following commercial centres : Quebec, Montreal, Toronto, Buffalo, Sault Ste. Marie, Fort William, Duluth, Winnipeg, Victoria, Prince Rupert, Halifax, St. John, Boston, New York, Washington, New Orleans, St. Louis, Chicago, Pittsburg, San Francisco, Seattle. Emphasize the factors that determine the location of the above, e.g., cheap raw material or mineral wealth, cheap power for manufacturing, cheap transportation, natural advantages for distribution of commercial products.

(3) Methods of distribution and transportation : steamships, railways, elevators. Routes : The St. Lawrence and Great Lakes with Canals, Erie Canal and Hudson River, Mississippi River ; transcontinental railways, e.g., Grand Trunk Pacific, Canadian Pacific, Panama Railway and Canal.

II. South America.

- (1) A brief treatment of mountain ranges, divides, slopes, basins, and climate.
- (2) Countries, peoples, occupations, commercial centres, products exchanged with Canada.

III. Ontario.

The divides, slopes, basins, rivers, surroundings; special conditions of soil, climate, and natural resources that affect the various industries, as agriculture, fruit-growing, lumbering, mining, manufacturing, fishing and hunting; location of new settlements and the relation of their growth to soil, climate, raw material, mineral wealth, cheap power, cost of transportation of raw material and manufactures; undeveloped agricultural and timbered districts with the causes; undeveloped water power and the possibilities for producing cheap manufactures and transportation; products, production maps showing districts where the following are produced: oil, gas, salt, fruits, grains, tobacco, nickel, silver, copper, iron, gold, lumber, pulpwood; chief commercial centres; important railways and canals; counties and county towns.

IV. West India Islands.

The larger islands and important groups; their physical relation to North and South America; their people, occupations and trade with Canada.

V. Historical and Current.

Location of places mentioned in the history course of this grade, and of places connected with current events.

Supplementary Reading.

Complete Geography—*Morang*.

Grade VI. or Senior III.

Assignment: I. Physical Geography.

- II. The British Empire with a more particular study of the Dominion of Canada.
- III. Historical and Current.

I. Physical Geography.

- (1) Agencies that modify the land surface: rain, frost, heat, wind, weathering, ice, rivers, earthquakes, volcanoes, waves, man.

- (2) Winds : causes, directions, uses, land and water breezes, whirl-winds, cyclones.
- (3) Rainfall : measurement ; general effect of prevailing winds and interference of mountain ranges ; regions of great rainfall and their characteristics ; rainless regions and their characteristics ; deserts, oases, and their causes.

II. The British Empire.

- (1) *Canada* : Study of Dominion as a whole and in provinces. Draw from memory the map of the Dominion showing divides, basins, rivers, coast-waters and provinces ; and mark the capitals, chief commercial centres and the important transportation routes by water and railway.
- (2) *Australia*, New Zealand, India, South Africa, British Isles—treated briefly as to political divisions, climate, peoples, occupations and products exchanged with Canada and the Motherland ; commercial routes between these countries and Canada.

Provinces : Location and surroundings of each, special conditions of soil, climate and natural resources that determine or affect their various industries, as agriculture, grazing, lumbering, mining, manufacturing, fishing, hunting ; location of new settlements, and the relation of their growth to soil, climate, raw material, mineral wealth, labor supply, cheap power, cost of transportation of raw material and manufactured products ; undeveloped agricultural and timbered districts with reasons ; undeveloped water powers and the possibilities for producing cheap electricity, cheap manufacturing and transportation ; products ; production maps of Canada made by the pupils showing where the following are produced in large quantities for the home and foreign markets : wheat, beef, tobacco, sugar, salt, coal, coal oil, gas, fruit, lumber, pulpwood, metals.

- (3) *Roll Call of British Empire* : Location on the map of all its component parts.

III. Historical and Current

As for previous grades.

Supplementary Reading

Round the Empire, Parkin ; Copp Clark Co.
 Industrial and Social Life of the Empire, Strachey ; The Macmillan Co.

Grade VII. or Junior IV.

Assignment : I. Astronomical Geography.
 II. Europe and Asia.
 III. Historical and Current.

I. Astronomical Geography

(1) The Earth in space ; proofs of its shape ; its relation to the sun ; its revolution around the sun, its orbit and ecliptic, the year and the seasons ; its rotation on its axis and the effects ; the inclination of its axis ; the Pole or North Star ; inequalities in the length of day and night ; equinoxes, and solstices ; sun time and standard time ; the midnight sun, lines and zones on the globe and map ; polar circles, equator, meridian, latitude, longitude, great and small circles, tropics, heat belts, light belts. Relation of the earth, moon and sun ; causes of the phases of the moon ; eclipse of the moon and the sun.

II. Europe and Asia

(1) Physiography of Eurasia, compared to North America as to relief, drainage, climate and prevailing winds (a careful study of the physical map should precede the study of the political map) ; approximate conceptions of the size of these continents, the heights of their table-lands and mountains ; comparison with North America as to latitude and longitude.
 (2) A study of the countries under topics similar to those suggested in Grade V. in the study of America, giving special attention to the British Isles, France, Germany, Holland, Russia, India, Japan and China.

III. Historical and Current

As in previous grades.

Supplementary Reading

Asia, Carpenter : American Book Co., New York.

Europe, " " " " " " "

Europe, Pictorial Geographical Readers, Longmans, Greene & Co.,
 Asia, " " " " " " "

Grade VIII. or Senior IV.

Assignment : I. Physical Geography.
 II. Astronomical Geography.
 III. World Geography.
 IV. The Geography of the Ancient World.
 V. Historical and Current.

I. Physical Geography

- (1) Trade Winds and Anti-Trade Winds, their location, direction and cause ; belt of calms ; cause and effects of monsoons ; cyclonic storms, their origin, direction and movements as shown by weather maps ; weather predictions.
- (2) Ocean Currents, their cause, direction and effects ; the effect of the prevailing winds blowing over these to the land.
- (3) The Nebular Hypothesis as a possible explanation of the formation of the world with its continental ridges, continents, ocean beds, volcanoes and volcanic islands.
- (4) The causes of saltiness of oceans and some lakes.
- (5) Fossils and the story they tell.
- (6) Glaciers, avalanches, moraines and icebergs.
- (7) Islands, continental and oceanic.

II. Astronomical Geography

The Earth as a planet ; other planets, their location and revolution around the Sun ; our solar system ; stars ; other solar systems ; distinction between a planet and a star ; morning and evening stars ; comets and meteors ; observation of some of the more prominent constellations such as, the Dipper, Orion and Cassiopeia.

III. World Geography

- (1) The Continents and Islands. A study of the leading countries and their colonies or dependencies with reference to their physical features, climatic conditions, political divisions, people, products and commercial relations, more particular attention being given to the British Empire, emphasizing the causes of its commercial supremacy.
- (2) Africa : Relief, drainage, climate, rainless regions, prevailing winds, irrigation ; a general idea of its partition among European nations ; the analogy in this respect between Africa to-day and America about two hundred years ago.
- (3) Leading forms of Government, races of people, and religions of the world.

IV. The Geography of the Ancient World

- (1) The location of the Ancient Mesopotamia, Babylonia, Chaldea, Medea, Phoenicia, Carthage, the ancient Empires of Assyria, Persia, Macedonia and Rome, with the approximate date of their greatness.

(2) Palestine. The location of Palestine with reference to Egypt, Greece and Italy ; the Jordan valley including the Sea of Galilee and Dead Sea ; political divisions at the time of Christ, Judea, Samaria, Galilee ; historical places e.g. Jerusalem, Bethlehem, Nazareth, Samaria, Jericho, Joppa ; cities connected historically with Palestine, e.g. Tyre, Sidon, Babylon, Ninevah, Damascus, Athens, Corinth, Ephesus, Rome.

V. Historical and Current

As in previous grades.

Supplementary Reading

Storyland of Stars, Pratt ; Educational Publishing Co., Carpenter's Geographical Readers; American Book Co., New York.

ARITHMETIC.

General Suggestions.

On account of the Committee not being able to agree on either method or amount of work in the early grades it was decided to submit duplicates courses in the first four grades called respectively Course A and Course B for consideration.

Grade I. or Junoir I. (Course A.)

Teach the numbers 1 to 9 inclusive : teach objectively, using sticks, pegs, apples, dots, etc., the facts of the above numbers developing concretely the number idea.

Teach Numeration and Notation to hundreds : teach numeration and notation of units, tens and hundreds with special emphasis on their position and consequent relationship to one another. Teach objectively and drill thoroughly.

Teach Combinations—Tens, Doubles, Nines and Eights : teach each combination objectively and follow this with the tens belonging to it so as to be able to take column addition from the beginning : thus $5+5$, then $15+5$, $25+5$ to $95+5$. The combinations may be taken in families as indicated above, thus the Ten family : $5+5$, $9+1$, $8+2$, $7+3$, $6+4$; Twins or Doubles : $1+1$, $2+2$, etc., to $9+9$; Nines : $1+8$, $2+7$, $3+6$, $4+5$; Eights : $1+7$, $2+6$, $3+5$ and ($4+4$ and $9+9$ already taken as Twins).

Note.—The family of Eights consists of those pair of digits whose sum is eight or whose sum ending is eight.

Single column addition in the combinations taught: Drill thoroughly in combinations, tens and columns so that by getting away from the concrete the addition becomes automatic not by mere mechanical drill but by repetition of process.

Oral Problems.

Give much practice on small suitable oral problems, the answers to be either oral or written. Give much practice, not only in solving problems, but also in problem forming and in interpreting problems.

Grade I. or Junior I. (Course B.)

Facts of the numbers 1 to 9 inclusive: teach objectively as in course A: numeration and notation as in course A: combinations, both addition and subtraction, to 20: drill thoroughly on these combinations.

Column addition: single column addition in which the sum does not exceed 20: add by increments of 1, 2, 3, etc., and also by using all the combination: oral problems as in course A.

Grade II. or Senior I. (Course A.)

Review work of previous grade.

Numeration and Notation

Teach and drill as in previous grade numeration and notation to thousands.

Combinations in Addition

Teach and drill as in previous grade the remainder of the combinations, taking the families Sevens, Sixes, Fives, Fours, Threes, Twos and Ones.

Addition

Teach and drill addition in questions up to five columns, using all the combinations.

Concrete Units

Teach objectively one-half, one-quarter, cent, five-cent, ten-cent, twenty-five-cent, dollar, pint, quart and gallon.

Problems

Use all the units taught in suitable oral and written problems, and give practice as in Grade I.

Grade II. or Senior I. (Course B.)

Review work of previous grade.

Numeration and notation as in course A.

Combinations

Review each combination and follow this with the tens belonging to it, thus, $6+7$, $16+7$, etc., to $96+7$.

Column Addition

Add by increments of 1, 2, 3, etc., to 100, thus, 4, 8, 12, 16 etc. : teach and drill addition in questions up to five columns.

Subtraction

Review subtraction combinations to 20, and teach subtraction. Concrete units as in course A.

Problems

As in course A.

Grade III. or Junior II. (Course A.)

Review and extend work of previous grades.

Numeration and Notation

Teach millions. Teach subtraction.

Multiplication

Teach tables for and multiplication by 2, 3 and 4, also multiplication by two figures composed of 0, 1, 2, 3 and 4.

Division

Teach division by 2, 3 and 4, and apply division by 2 to the teaching of odd and even numbers.

NOTE.—Teach subtraction, multiplication and division objectively ; emphasize the relationship of the positions of the figures especially in reduction ; and give plenty of practice for accuracy and rapidity in the mechanical work.

Concrete Units

One-third, ounce, pound, time by the clock, days of the week and months and seasons of the year. Teach the above objectively, and use these and previous units in the formal statement both orally and in writing, as well as in the working of suitable problems.

Problems

Practice problems as in Grade I. Mental arithmetic daily.

Grade III. or Junior II. (Course B.)

Review and extend work of previous grades.

Numeration and notation to millions**Multiplication**

Review addition by increments and teach multiplication by one, two and three figures.

Division

Teach objectively $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, and from this develop division by a single figure.

NOTE.—Teach multiplication and division objectively, and give plenty of practice for accuracy and rapidity in the mechanical work.

Roman notation to C**Concrete Units**

Teach objectively ounce and pound.

Problems

Easy oral problems about things with which the pupils are familiar, and involving not more than two steps. Drill in reading problems and stating solutions. Drill daily in mental arithmetic.

Grade IV. or Senior II. (Course A.)

Review and extend work of previous grades.

Aim at securing accuracy with a fair degree of speed.

Multiplication and Division

Teach tables and multiplication and division to 9 inclusive. Use multipliers of not more than three figures and divisors of not more than one figure.

Factoring

Teach easy factoring, division by two factors and finding the true remainder.

Notation

Teach Roman notation to 1,000 inclusive.

Concrete Units

Teach halves, thirds, fourths, fifths, sixths, sevenths, eights, ninths, mile, square inch, square foot, square yard, cubic inch, cubic foot, second, minute, hour, week, month (number of days in each month), year, century, and use these and all previous units in both oral and written problems having not more than two steps in their solution. Emphasize clear logical statements in all solution of problems and accuracy and speed in mechanical work.

Perimeter of Rectangular Figures

Teach by actual measurements and follow with oral and written problems.

Grade IV. or Senior II. (Course B.)

Review work of previous grades with the aim of securing accuracy and speed.

Division

Teach long division by divisors of one, two and three figures.

Factoring

Teach easy factoring, division by two factors, and finding the true remainder.

Notation as Course A

Concrete Units

Teach objectively fractions to eights and find such parts of quantities, also inch, foot, yard, second, minute and hour, and use these in oral and written problems of not more than two steps.

Problems

Easy problems about things with which the pupils are familiar. Oral problems daily, insisting on clear statements of the solution. Drill in reading problems and stating solutions. Perimeter of rectangular figures as in course A, and use these in oral and written problems of not more than two steps.

Grade V.

NOTE.—In this and the following grades, the work is outlined in monthly instalments beginning the academic year in September. If the promotions are made at a different time a corresponding change must be made.

Grade V. or Junior III.

September :—Review work of previous grades for Accuracy and Rapidity of mechanical work and clear logical statements in problems. Complete Multiplication and teach Long Division by divisors of one, two or three figures.

October :—Complete Long Division—Addition of Ledger Columns Factoring—Prime and Composite Numbers—Prime Factors—Division by two factors and finding true remainder with reason therefor. Cancellation. Problems involving all units taken.

November :—Measures and Multiples. Highest Common Factor and Least Common Multiple developed from Prime Factors. Complete Arabic and Roman Notation. Simple Bills and Accounts. Problems.

December :—Teach shorter form of finding Highest Common Factor and Least Common Multiple with reasons for the methods. Aggregates and Averages, teach the Proper Fraction and its terms, also Notation and Numeration of Fractions, Improper Fractions and Mixed Numbers and the changing of each of them to the form of the other. Problems.

January :—Teach the Reduction of Proper and Improper Fractions and Mixed Numbers followed by their Addition and Subtraction. Teach Addition and Subtraction of Fractions. Problems.

February :—Reduction—Teach the Tables and two step questions for Money, Time and Length. Problems.

March :—Reduction—Teach the Tables and two step questions for Volume (not including Cubic measure) and Weight. Problems involving all previous work.

April :—Reduction—Table and two step questions for Surface Measure, Areas of Rectangular surfaces developed from the unit. Problems.

May :—Complete Reduction—Tables and two step questions.

June :—Review all phases of the work giving special attention to accuracy and neatness of statement, form and result.

Grade VI. or Senior III.

September :—Review the Simple Rules giving special attention to the reasons for the way in which the operations are performed, also to secure accuracy and rapidity. Multiply and Divide by 25, 75, 125, and 10, 100, etc., by short methods. Teach the stating of the steps of problems in logical order.

October :—Review and complete the work in connection with the tables of Money, Time and Length. Have suitable problems logically stated.

November :—Review, extend and complete the work in connection with the tables of Weight and Volume (cubic measure omitted). Bills and Receipts. Problems.

December :—Review, extend and complete the work in connection with Surface Measure. Problems relating to surfaces.

January :—Cubic Measure as above. Volumes of Cubes and Rectangular Prisms developed from the unit.

February :—Review and complete the work in connection with the Compound numbers. Simple Sharing. Problems oral and written.

March :—Review and extend the work in Addition and Subtraction of Fractions and Mixed Numbers and problems relating thereto.

April :—Multiplication and Division of Simple Fractions and Mixed Numbers and Problems involving this and previous work.

May :—Simplifying Compound and Complex Fractions and Problems involving this work.

June :—Review and relate all phases of the work and secure logical order, neatness and accuracy.

Grade VII. or Junior IV.

September :—Review and extend the application of the Simple Rules giving attention to theory, accuracy and rapidity—Bills—Measures and Multiples—Fractions—Problems involving this work.

October :—Review and extend the application of the work in connection with the Compound Numbers completing all except Surface and Cubic Measures including problems relating to this and the previous work.

November :—Review and extend the application of the work relating to Surface and Cubic Measure as applied to rectangular Surfaces and Solids including land measure, walks, paving, grading, excavating, having pupils report problems from actual measurements.

December :—Continue the work of the previous months and also extend the application of Averages and Sharing.

January :—Decimals :—notation and uumeration, reduction, ddition, subtraction, multiplication and division.

February :—Changing Decimals to Vulgar Fractions and vice versa, Percentage—Expressing Percent as either a Vulgar Fraction or a Decimal and vice versa and its application to Profit and Loss. Problems relating to this and previous work.

March :—Review the work of previous months. Teach Simple Interest with direct Problems.

April :—Review. Teach Commission and Brokerage. Problems.

May :—Bills and Accounts with partial Payments thereon. Insurance. Problems.

June :—Review the entire work of the Grade strengthening any weak points and showing the proper relation between the parts and demanding accuracy, neatness, rapidity and logical statements and arrangements.

Grade VIII. or Senior IV.

September :—Review and extend the application of—Notation and the Simple Rules with special stress on Theory—Problems. Teach Involution and the extraction of Square Root.

October :—Review as above the rules relating to the Compound Numbers with Problems involving this and previous work. Teach Area of Right-Angled Triangle and Circle.

November :—Review as above Factoring, Measures and Multiples, Averages and Sharing. Practical Problems in Area as Carpeting, Plastering and Painting, giving Mathematical and Practical solutions.

December :—Review as above—Vulgar Fractions. Teach volume of Cube, Rectangular Prism and Cylinder.

January :—Review as above—Decimals. Practical Problems in Volume of which a type is : Find the number of bricks for a wall.

February :—Review as above—Percentage, Profit and Loss, Commission and Brokerage, Simple Interest, Accounts with Partial Payment and Insurance. Problems.

March :—Review. Teach Ratio and Proportion and Aliquot Parts. Problems.

April :—Review. Teach Taxes, Duties and easy direct questions in Partnership. Problems.

May :—Trade Discounts (not more than three) and easy direct questions in Compound Interest. Teach Metric System.

June :—Review and relate the entire work.

WRITING

General Suggestions

Every teacher should secure a good Manual on Penmanship and carefully study the essentials of good writing. If the teacher be not a good writer he should obtain a supply of good materials and practise at least half an hour daily, closely following the directions given in the Manual. Continue the study and the practice till the subject is fairly well mastered. In teaching writing the greatest difficulty is to get the pupil to hold the pen properly and to assume a proper position. Once these are secured the way is clear and careful, persistent practice will do the rest.

Position

1. Position of body—The front edge of the seat should be directly below the edge of the desk. The pupil should sit well back on the seat, the body leaning slightly forward close to the desk, but not leaning against it. The feet should be placed flat on the floor in front of seat and the arms should rest easily on the desk. The points of the elbows of both arms should be just off the edge of the desk. The pupil should not lean the weight of his body on the arms, but the full weight of the arms should rest on the desk. It takes time, constant effort and thought to form the habit of sitting in a correct position, therefore continue to give the foregoing directions careful attention, until the habit of assuming a good easy writing position is established.

2. Position of paper—The paper should be placed so that the edge of the paper is parallel to the forearm. If this relative position of paper and forearm be maintained the slant of the writing will be right and further directions regarding slant need not be given.

3. Position of arms—Place the right arm so that it rests on the muscular cushion of the underside of the forearm. The left arm should be placed in the same relative position as the right, and the left hand used to hold the paper.

4. Penholding—The pen is held between the end of the thumb and the second finger at a place between the first joint and the root of the nail, and the first finger is placed on top of the penholder about an inch from the point of the pen. The penholder should cross the hand near the knuckle-joint of the first finger. The penholder should point towards the right arm between the elbow and the shoulder. When held properly it will form an angle of about forty-five degrees with the paper. The third and fourth fingers are turned under the hand, and the hand is turned just enough to let it glide on the tips of the nails of these two fingers. Be sure that no part of the hand except these fingers touches the desk. (*Carefully examine the cuts in the Manual.*)

Cautions

(1) The penholder must not be gripped tightly. (2) Correct position of body, arms and paper and correct penholding should be required

not only during the writing lesson but in all written work. (3) Use only good pens, ink and paper. (4) There should be a writing lesson daily of at least twenty minutes under the direct supervision of the teacher. The first part of the lesson should be devoted to teaching from the blackboard. The pupils should frequently be required to use the blackboard for exercises and writing.

Motions in Practice (Consult Manual)

There are four motions : (1) Right and left. From left to right and return, making horizontal straight lines. (2) Left oval. This is made in the direction that the letter O is formed. It is used in making letters, as o, a. (3) Right oval. This is made in the direction that the letter P is formed. It is used in making letters, as P, B. (4) Up and down straight lines. This motion is made by a forward and return movement of the arm. If copy books be used the muscular movement exercises must nevertheless be kept up.

Grades I. and II. or Junior I and Senior I.

Aim to acquire ease of movement and lightness of stroke. Special attention to proper position of the body, pencil or pen, and paper.

Exercises—At the desk and at the blackboard

(1) Left and right ovals. (2) Right and left straight lines. (3) Up and down straight lines.

Writing letters and words as taught in the reading lessons. Figures, exercises, and writing should be of large size.

Pupils should use the blackboard frequently.

Grade III. or Junior II.

Aim—To acquire ease and control of movement, lightness of stroke and form of letter. Attention to position and penholding. Exercises at desk and at blackboard. Developing letters from left oval, e.g., O, A, C ; o, a, e, c. From right oval, e.g., B, P, R, m, n, v. Writing words, sentences and figures. Exercises and writing should be of medium size.

Grade IV. or Senior II.

Aim—As in Grade III. with greater attention to neatness and form of letters. Special attention to spacing and joining of letters. Exercises. The four movements. Developing all the small and capital letters from the movements. Work at seat and at blackboard. Writing words and sentences with careful attention to neatness.

Teach pupils to be self critical.

Grade V. or Junior III.

Aim—As in Grade IV. but greater neatness and accuracy of form, spacing and joining of letters should be expected than in previous grades. Development of all letters from movements. Work, at seat and at blackboard. Writing figures and sentences with special attention to neatness. Pupils should learn self criticism.

Grade VI. or Senior III.

Aim—Greater neatness and speed than in the previous grades. Special attention to neatness of the written page. Writing sentences and short paragraphs. Self criticism.

Grade VII. or Junior IV.

Aim—Neatness and speed. More complicated exercises. Development of all the letters from movements. Special attention to legibility and beauty of form. Writing of bills and accounts for greater variety of practice. Exercises and development of letters on blackboard. Self criticism.

Grade VIII. or Senior IV.

Aim—Legibility, beauty and speed. Difficult movement exercises. Correction of any errors in the formation of letters, that may still survive. Writing of business forms and short letters for variety of practice. Careful self criticism. Exercises on backboard continued.

ART

General Suggestions

The work is arranged under heads. It is not intended that one division of the subject be completed before another is begun; but that all be correlated as far as possible and each receive its due share of attention. The choice of subjects under each head must depend on the season and the material available in the locality. A variety of subjects (such as suggested in the course) is more conducive to the development of power than constant drill on one or two.

The course appears, at first sight, much more extensive than it really is. With proper correlation, one lesson may cover work under several heads, for example, the painting of a simple spray from nature includes color, representation and composition. Composition, as it deals with good selection and arrangement, should be incidental to all exercises.

It is not to be supposed that this work can be carried on in its entirety until all grades have had some experience. Teachers should adapt the work to the present condition of their pupils, dropping back a grade or even two if necessary ; but with the understanding that in the near future the work of each grade will have reached the standard required in the course.

Teachers should read the work of previous grades that they may realize the place their own work takes in the sequence.

Grade I. or Junior I.

Color

The recognition of the six standard colors ; red, orange, yellow, green, blue and violet.

Representation

Simple flowers, grasses or sedges, paying particular attention to direction and shape of mass. Toys, birds, animals and the figure chiefly in illustration.

Illustrative Drawing

Games, sports, holiday experiences, special celebrations, fair day, circus day, etc. Nursery rhymes, simple fairy tales and stories full of action.

Picture Study

Telling stories based on pictures shown to class.

Design

Simple ornament, using flowers or simple objects familiar to the children. Repetition of the above units in borders. Coloring in design limited to one color with white, gray or black.

Printing of all letters that may be laid with sticks, occasional line drills should be given both at the seats and upon the blackboard to gain correct holding of charcoal or crayon and free arm movement.

Mediums

Charcoal, colored chalks, colored crayons, black crayons and pencils having very large leads are the most satisfactory mediums.

Grade II. or Senior I.

Color

The recognition of the six standard colors ; red orange, yellow, green, blue and violet.

Representation

Simple flowers, blossoming twigs, plants and trees, noting direction and character of growth (slender and graceful, strong and sturdy) and shape of mass. Vegetables, toys and other objects that are interesting to the children. Animals, birds and children chiefly in illustration.

Composition.

Training in the selection of appropriate size and shape of sheet on which to place the drawing.

Illustrative Drawing

Games and outdoor sports, holiday experiences, with simple landscape settings. Myths and legends, illustration of reading and other lessons.

Picture Study

Telling stories based on pictures shown to class.

Design

Simple ornament derived from nature, simple geometric shapes or simple familiar objects. Repetition in borders and surface patterns aiming to secure regularity of size and spacing of units. The coloring in design to be limited to one color with white, gray or black.

Lettering

Capitals in simplest possible form.

Line Drills

To secure free arm movement and proper pencil, charcoal and crayon holding.

Mediums

Colored crayons, charcoal, chalk, brush and ink and pencils with large soft lead.

Grade III. or Junior II.

Color

Recognition of tints and shades of color.

Representation

Plants, flowers, single leaves, stalks with leaves, sprays of seed packs, seed germination, trees and simple landscapes.

Note relative position and size of parts.

Simple objects, toys, means of transportation, animals and children, particularly in connection with illustrative drawing.

Composition

As in previous grades.

Illustrative Drawing

In connection with other school subjects, also games, sports, events and experiences. Use landscape or indoor setting.

Picture Study

Picture reading for the story and for some knowledge of the Artist.

Design

Simple units derived from nature, from geometric shapes, or from objects familiar to the children.

Repetition in surface patterns. Radiation round a centre in single units.

Practice in the use of ruler in measuring inch and half-inch, and for planning spaces for patterns. All designs to be applied, if possible, to objects constructed such as book-covers, calendars, etc. Coloring in these designs should be two tones of one color on gray, bogus or drawing paper upon which a gray wash has been painted previously.

Lettering

Plain capital letters proportioned to fit a space.

Mediums

Colored and black crayons, charcoal, brush and ink and lead pencil with large lead.

Grade III. or Senior II.**Color**

Hues of color.

Representation

Plants, leaves, flowers, sprays, aim to show life and growth, proportion and foreshortening of parts. Trees and simple landscapes. Silhouettes of plants, animals, birds and children chiefly from memory after careful study.

Classification of objects as resembling cube, sphere, cylinder, square and triangular prism and cone.

Silhouettes and pencil sketches of these objects. The study of two objects placed one behind and partly hidden by the other so as to see them correctly and place them on the paper as they appear.

Animal and figure drawing chiefly in illustration.

Composition

Placing of drawing on sheet with appropriate margins, trimming and mounting where necessary.

Picture Study

For knowledge of artist and his method of telling story. Children should become familiar with three or four good pictures by acknowledged masters.

Design

Flowers studied for units, and colors, and records of these made and kept for future use. Repetition, alternation and radiation. Simple constructive bases for the orderly arrangement of units in surface patterns. All designs to be planned for some definite purpose and applied where possible to articles constructed.

Coloring

A color with one of its hues on grayed or bogus paper.

Lettering

Plain capitals proportioned to fit a space.

Line drills for free arm movement and correct pencil holding.

Mediums

Three-color box of water colors, charcoal, brush and ink and lead pencil with large soft lead.

Grade V. or Junior III.

Color

Complementary colors, graying of colors and three tones of gray.

Representation

Plants, sprays with flowers or fruits, noting particularly proportion and foreshortening of parts. Trees and landscapes. Animals, birds, insects. Memory sketches of children. Observation lessons on type solids and drawing from objects resembling the types. Grouping of objects. Effects of distance and position in relation to eye level. Pencil measurement to verify judgment of proportion and foreshortening. Compare all slants and curves with a vertical or horizontal edge.

Composition

The grouping of objects that naturally belong together and that are related as to size and shape. Appropriate size and shape of sheet and suitable margins. The use of "finders" in selecting the most interesting part of a sketch.

Illustration

In connection with other studies.

Picture Study

For a knowledge of the artist and his method of telling the story.
Becoming familiar with good pictures.

Design

Charts made from flower-forms for subsequent use in unit building.
Repetition, alternation, radiation. Rosettes: Borders and surface patterns with radial units. Constructive bases using square, oblong, diamond and drop square.

All designs as far as possible to be planned for application to articles constructed.

Coloring in these designs to be two tones of gray or two tones of a grayed color.

Lettering

Plain capitals to fit a space. Proper weight of letters for different purposes. The correct spacing of letters in words and sentences.

Mediums

Three-color box, charcoal, brush and ink and soft pencil.

Grade VI. or Senior III.**Color**

Scales of value.

Representation

Flower and fruit sprays, noting proportion and foreshortening of parts, careful studies of joints, bracts and stems. In all pencil drawings try to express texture by quality of line. Trees—singly, in groups and in landscapes. Quick pencil or charcoal sketches and action studies of animals, birds and the figure and silhouettes from memory and from the model. The hemisphere, cylinder and cone—studied in all positions. Objects with handles singly and in groups. The effects of distance and position. Use pencil measurement and compare all slanting or curved lines with a vertical or horizontal edge.

Composition

Space divisions. Use of "finders" in determining best proportion and size and most pleasing position of object or group in a rectangle.

Illustration

In connection with other studies.

Picture Study

For knowledge of artist and his methods and to cultivate appreciation of the best pictures.

Design

Charts from flower forms. Unit building. Balance on either side of one axis, *i.e.*, bilateral symmetry. Single units to be used alone for decorating purposes. The breaking up of a given mass into rhythmic well-balanced shapes. Surface patterns for definite purposes. Constructive bases using oblong, drop oblong, circles or semi-circles. Plaids and stripes.

Coloring in these designs to be two or three values of one grayed color or two or three values from the neutral scale.

Lettering

Plain capitals to fit a space. Proper weight of letters for different purposes. Correct spacing of letters in words and sentences.

Mediums

Water-color box with three colors and black or India Ink, charcoal, brush and ink and soft pencil.

Grade VII. or Junior IV.**Color**

Scales of intensity. The making of color schemes of low intensity. Matching of colors in textiles.

Representation

Flower and fruit sprays carefully studying all details of structure—joints, bracts, buds, leaves unfolding. Sketches of type solids—cubical objects, as boxes, baskets, books, etc. Groups of objects. Effects of distance and foreshortening. Pupils discover through observation that receding, parallel, horizontal lines converge towards a point on a level with the eye. Quick pencil or charcoal sketches and silhouettes of animals, birds, etc. The pose.

Composition

Space divisions. Decorative arrangements within rectangular enclosing shapes, considering back-ground spaces.

Illustration

In connection with other studies.

Picture Study

For composition, technique, knowledge of the artist and to learn how to judge a picture.

Design

Charts from flower forms for unit building. Balance and rhythm in design. The breaking up of a given space into a design with related well balanced parts. Surface patterns planned, considering limitations of material to be used and fitness to purpose. Squared and conventionalized natural forms.

Coloring to be used in design. Groups of colors of low intensity and closely related neutral values. One color with black, gray or white.

Mottoes :—Decorative initials, Roman alphabet.

Mediums

Water color box with three colors and black (preferably charcoal gray) or India Ink, charcoal, brush and ink and soft pencil.

Grade VIII. or Senior IV.

Color

Rhythms and harmonies of color, monochromatic and analogous schemes.

Representation

Flowers and fruit sprays, trees alone and in landscape. Careful studies of branching, all details of structure and textures. Quick pencil and charcoal sketches and silhouettes of animals, birds, insects, etc. The pose. The study of type solids especially cones, pyramids, square and triangular prisms. Objects singly and grouped for composition. The use of axes, diagonals and invisible edges as aids to correct drawing. Window sketches including chimneys or towers and roofs. Pupils discover through observation the perspective laws underlying the drawing of cubical objects turned at an angle. Light, shade and cast shadow.

Composition

Space divisions, figure and flower compositions in neutral values and in grayed colors.

Illustration

In charcoal, brush and ink and in neutral values, of school essays. The interpretation of word pictures using appropriate mediums.

Picture Study

For composition, technique, knowledge of the artist and to learn how to judge a picture.

Design

Plaids and stripes. Balance and rhythm. The use of the stencil and wood block. Rosettes. The abstract spot in surface patterns and borders. Balance of unlike parts. Relation of decorating mass to space decorated, comparison of Egyptian, Greek and Roman, architecture and ornament, noting growth of ornament.

Lettering

Decorative initials. Roman alphabet. Mottoes.

Coloring

Monochromatic and analogous schemes, neutral values, one color with black, white or gray.

Mediums

Charcoal, brush and India ink, water colors and pencil.

INDUSTRIAL ARTS.

NOTE.—A well illustrated manual should be prepared for each form. This should contain sketches and drawings of suitable objects, with suggestions for modifications, information as to materials and methods and such other help as will enable the teacher without training to undertake this work in the schools.

The object of training in the industrial arts is mental development and physical control, and in a secondary degree to give some elementary ideas regarding industrial life. The making of things and the achievement of skill, while exceedingly important, should at first be subsidiary to the thought processes involved and the exercises should sustain the child's interests, take advantage of the child's desire to construct, and the objects themselves should bear some definite relation to each other.

Constructive work should make the ability to do a part of the knowing, and should incorporate knowledge into habit and theory with practice. The amount of work accomplished is unimportant in comparison with the mastery of correct methods and the formation of good habits. Every opportunity should be given the pupils to modify given type models or to design new ones, and in the lower grades to rearrange given units or create new combinations. All of the work should have in it the elements of beauty in construction, in proportion, and in decoration. Though we may not be able to add to the quantity or the variety

of the material, we can modify its form and we can arrange it in new combinations. The making of new forms and combinations, the giving of definite expression to ideas and mental images, the rendering of the inner outer, is the great Fröbelian doctrine of creativeness.

Grade I. or Junior I.

Paper cutting, tearing and folding

- a. Representation of common objects such as leaves, flowers, fruits and objects to be found in the school and the home.
- b. Illustrations of stories or parts of stories from reading books, fairy stories, seasons, games, such as The Three Bears, Jack and the Bean Stalk, Christmas, Skating, Basket Ball, Tobogganing.
- c. Folding to teach simple geometric figures—square, rectangle, right-angled triangle.

Making of Objects

The work here should be grouped round some centre so that each object made shall have some definite relation; e.g., the furnishing of a doll's house with paper furniture, supplies ample material for a year's work. These articles can all be made from simple foldings, and at this stage no closer measurement than half an inch should be required.

Clay Modelling

Representation of natural objects, as orange, apple, onion, tomato potato, egg, simple leaf. Common objects, as box, bird's house, small loaf of bread, cup (without handle) and saucer, flower pot and saucer, basket, tea set and tray.

NOTE.—In the above, all modelling should be done from the actual object, as many being provided as will enable each child to make a thorough examination.

Free Modelling

NOTE 1.—Under this head the children should make what they wish, and should be encouraged to invent forms and patterns for themselves.

NOTE 2.—Clay modelling should be so treated as to become an aid to conception of form. It should also be correlated with Nature Study.

Grade II. or Senior I.

Paper Cutting

Cutting of objects that require finer work than in Grade I. Illustration of stories, common land and water forms as taught in the geography course for this grade. Simple geometric figures—circle, equilateral triangle. Cutting and mounting pictures, drawings, calendars. Rule, color and cut, geometric forms, and use the same as units in building up patterns and borders.

Making of Objects

Stouter paper than in Grade I. to be used. Make a large envelope to contain cuttings and drawings. Objects made should be more accurately constructed but still be related. Suitable centres round which the work may be grouped are transportation, trades and industries, buildings, gardens, shops, postal service, fire department. One or more of these should be developed. Making book covers.

Clay Modelling

Representation of natural objects requiring more detail than in Grade I., such as maple-leaf, tomato. Modelling from memory, using any well known object, such as loaf of bread, bottle, small bowl.

Free Modelling

Grade III. or Junior II.

Paper

Continue work of Grade II., but requiring greater accuracy in measurement and introducing quarter-inch measurement. Review the geometric figures taught in previous grades. Each form should be studied separately, and names and properties developed. Objects such as wall pockets, boxes, trays, baskets, boats, windmill. At this stage simple appropriate design may be used in the decoration of the object.

Clay Modelling

Representation of natural forms such as apple, beet, leaves of trees in the neighbourhood, apple and twig. Representation of common objects such as cup with handle, saucer, flower pot, piece of coal. Illustration of the land and water forms taught in this, and the previous grades and combination of several of these in a simple relief map.

Grade IV. or Senior II.

Card Board Modelling

Light-weight cardboard to be used. The use of the compasses in the construction of the hexagon and the octagon. Making of various objects based on the triangle, hexagon and octagon, such as candy boxes, trays, twine holders. Measuring various simple objects such as chalk boxes, pencil boxes, and drawing to full and half scale. Modification of given patterns. All geometrical terms taught in previous grades should be thoroughly reviewed. Making simple repairs to damaged books.

Grade V. or Junior III.

Cardboard Modelling

Continuation of cardboard modelling introducing cutting with the knife. Making of objects composed of two or more pieces such as match holders, whisk holders. Cutting picture mats. Solid figures, such as cube, square prism, hexagonal prism. Review full and half scales and introduce quarter scale. Plan of school room and school grounds, properly dimensioned and lettered. Each pupil to take his own measurements, introducing arithmetical calculations in the working out of the scale.

Grade VI. or Senior III.

Mechanical Drawing

Use of drawing board, tee square, set square and compasses. Simple plans and elevations properly lettered and dimensioned. Scales one-half, one-quarter and one-eighth and their use in industrial life.

Work in Thin Wood

One piece models such as top, plant labels, pencil sharpeners. Models consisting of two or more pieces such as brackets, flower ladders, toy furniture, flower-pot stands. Use of brads, screws and glue. Basswood either three-sixteenths or one-quarter of an inch thick is the best wood for this purpose. The desk-top should be protected by a sheet of stout mill board. Talks on basswood and pine.

Grades VII. and VIII. or Junior and Senior IV.

The work of these grades should be taken in a properly equipped manual training room, but where this cannot be obtained, much good and useful work can be done by the provision of one or two benches. Every rural school should have at least one bench with a set of tools. In some cases a long bench fixed to one of the walls of the class-room will be found best. Where no provision can be made for a bench of any description, the knife work of the previous grade should be continued with much greater stress on the mechanical drawing. Use of simpler wood-working tools, as saw, chisel, plane, rule, gauge. Exercises embodied in a complete useful model, and intended to give facility in the use of these tools, as laying out and truing up pieces to dimensions; cutting grooves; making of objects easily constructed and either useful or ornamental, as rulers, keyracks, boxes, brackets, brushholders, penracks, inkstands, school apparatus. Short talks on the construction of tools and on the material used.

HOUSEHOLD SCIENCE.

Grade I. Elementary stitches on canvas with worsted. Canvas needle book, holder or pencil case. Talks on wool. Talks on wheat, flour and bread.

Grade II. Elementary stitches continued. Button bag, pin cushion. Talk on cotton. Talks on milk and eggs.

Grade III. Simple stitches. Sewing on buttons and hooks. Simple darning and mending. Talks on the manufacture of buttons. Talks on cereals.

Grade IV. Hemming, running, basting. Sewing on loops, tapes. Darning and mending. Talks on the different animal and vegetable fibres. Talks on washing clothes.

Grade V. First ideas of cutting out. Advanced stitches applied to small garments. Hemmed patch. Fine mending. Making and working buttonholes. Talks on cleaning house.

Grade VI. Dressing a doll. Talks on fruits and setting and serving a table.

Grades VII. and VIII. This work, where possible, will be taken in a room set apart for cookery, but in a large number of schools this will not be found possible. In those cases excellent work may be done with an equipment designed by Macdonald Institute. A description of this will be found reprinted in the Report of the Inspector of Technical Education for 1908. The following course provides for two years' work :—The home, its functions, care of the house; various rooms and their uses; division of work in the care of house, preparation of food, cleaning methods. Examination and study of equipment in classroom. Detailed study of methods of cooking with the object of acquiring facility of manipulation and measurement as well as a knowledge of the processes of cookery; boiling, simmering, steeping, steaming, broiling, pan-broiling, sauteing, frying, baking; each method to be illustrated by the cooking of one or more articles of food after the principles have been carefully studied. Fuels: coal, wood, gas, electricity, kerosene, alcohol, gasoline, coke; building and care of fires. Effects of heat upon common food materials, water, fresh and dried fruit, non-starchy vegetables, potatoes, legumes, breakfast cereals, flour (a study for thickening purposes only), milk, eggs, meat, fish. The composition and nutritive value of each food—a simple study only. Classification of foods.

Fruit preserving, canning, etc. Yeasts, combination and cooking of various food materials.

Planning, cooking, and serving a meal; marketing, cost; routine of work, table setting, serving; table manners.

Care of kitchen, utensils, etc. ; dish washing ; towels ; special methods of cleaning tin, granite, iron, brass, wood.

Laundry studies, with simple equipment. Soft and hard water, hot and cold water ; soap, soda, etc., their effect upon various fabrics ; preparation of clothes for laundry ; removal of stains ; starching and ironing.

Course of Grades V. and VI. in needlework continued ; cutting and making simple garments.

HYGIENE AND TEMPERANCE.

General Suggestions.

In the subject of Hygiene and Temperance the aim of the teacher in the lower forms of the Public School should be to implant firmly in the mind of the child the simple rules of health and to see that correct habits are formed in relation to these. These hygienic rules should be few, simple, direct and such as may readily be followed both in school and home. As living a wholesome physical life is more a matter of good habits than of knowledge, it is necessary that the teacher endeavor in every way possible to form correct habits in the children. The teaching of scientific Hygiene and Temperance should be confined to Grades V, VI, VII and VIII. In rural schools the children may well be divided into two sections for this work, the first four grades in Section I, and the other four in Section II.

Grade I. or Junior I.

Cleanliness : Every child should be required to come to school with clean hands, face and neck and with hair neatly combed. Boots and clothes should be clean and neat. Constant emphasis should be placed on the practice of cleanliness. Pupils should understand its relation to health, and self-respect. Simple talks should be given on the care of the hands, nails, teeth, hair and skin.

Sunshine and Fresh Air : Children should be taught that it is good for them to be out in the sunshine. They need sunshine for growing as much as plants. Illustrate by plants that have grown in darkness and shade, e.g., potatoes in a cellar and saplings in a bush. The need for fresh air may be shown by drawing their attention to the inflow of fresh air and the outflow of impure air in the school room, or by opening the windows at recess and other times. Keep the school room as bright and as well aired as possible.

Food : Eat enough plain wholesome food but waste none. Drink plenty of water, and milk, but very little tea or coffee. Eat very sparingly of sweets or pastries. Eat slowly, both because it is healthful and because it is good manners.

Exercise, Play and Sleep : Exercises and marching should be practised at intervals during school hours. The body needs exercise as well as the mind ; exercises to develop the muscles and to expand the chest ; breathing exercises to fill the lungs with fresh air ; marching to develop erect bearing and correct position when standing or walking.

Play : The child should be encouraged to play games out of doors and to tell of them in school. Unrestrained play is the best form of physical exercise.

Sleep : Small children should go to bed early to get plenty of sleep ; fresh air during the night a necessity ; the open window in the bedroom ; danger from draughts.

Habits : Note carefully the seating of each pupil, as desks are frequently too high, too low or too far apart. Constant effort should be given to the formation of correct habits of sitting at desks, standing and walking. Position and movement should be as free and unconscious as possible. Unselfishness, consideration for others, gentleness and courtesy should be cultivated through teaching and practice.

Grade II. or Senior I.

Work of previous grade reviewed and continued.

Cleanliness : Constant attention should be given to cleanliness of person and clothing with the object of forming good habits. Instruction in regard to the cleanliness and care of the skin, eyes, ears, nose, mouth, nails, body, hair ; cleanliness of hands and face particularly at meal time.

Sunshine and Fresh Air : Why are flowers more abundant in the woods in the spring before the leaves come out than later in the summer ? Emphasize the relation between sunlight and health for both plants and animals.

Simple Lessons on the Air : Pure air and things that spoil it ; breathing air that has been breathed by others several times ; dust in the air ; moisture in air forming frost on the window and dew on the grass ; effect of a rainstorm on the air. Means of getting fresh air into and impure air out of a schoolroom, e.g., windows, doors, chimneys, ventilators. By means of smoke from a small strip of brown paper show the currents of air going out of and coming into a room.

Food : Food is the fuel of the body ; the necessity of plenty of wholesome food. Simple lessons on eating, drinking and breathing to impress on the pupil that our power to do work even when healthy depends on the supply of proper fuel. Stories, songs, and recitations that may serve to impress the evil effect on the body and mind, of alcoholic stimulants and tobacco, and to inculcate total abstinence from both.

Exercise, Play, and Sleep: Exercises of previous grade continued and extended. Outdoor school games should be encouraged for both boys and girls of this age. Children to twelve years of age should have ten hours' sleep every night.

Habits: Careful attention to seating of pupils. Correct habits of sitting, standing, and walking. In standing the weight of the body should be thrown on the ball of the foot, not on the heel, the head should be erect and the shoulders back. A rigid posture is unnatural and produces strain which should be carefully avoided.

Grade III. or Junior II.

Work of previous grades reviewed and continued.

Cleanliness: Pupils are now old enough to be responsible for cleanliness of person and clothing, and this should be expected. Profane and unclean habits of conversation. The evil effect of cigarette smoking on body and mind.

The Skin: Moisture given off from the skin as shown by placing the warm hand on a cold window-pane; observation of oil that appears on the skin. The outer or scarf skin is being shed constantly. This may be shown when the skin is rubbed hard by the wet hand without soap. The necessity for keeping the skin clean owing to the gradual decay of this mixture of sweat, oil and scarf skin. The relation of cleanliness to health and to self-respect.

The Framework of the Body: Regard the body as the temple of the soul. The bones as the framework of the body; their attachment to each other at the joints by ligaments; the cushion of cartilage on the end of each bone; the attachment strengthened on the outside surface by tendons and muscles. How the growth of the cartilage and ligaments may be affected by sitting at desks too high, or too low, or by wrong habits of sitting, standing or walking. The evil results that follow e.g., the curved spine, the raised or drooping shoulders, the shuffling gait, the awkward bearing and the general loafing appearance. The necessity for erect bearing; the effect on the appearance and on the mind; it tends to develop a sense of manliness, honor, courtesy, a respect for self and a regard for others.

Grade IV. or Senior II.

Work of previous grades reviewed giving special attention to sunshine.

Sunshine: Illustrate its effect on the growth of plants by a reference to the absence of grass under an open verandah or shed, under evergreen trees with low branches, in a bush except in open places, etc.; compare the appearance of a maple growing as a shade tree and in the bush; account for the appearance of saplings in the bush, the cone shaped appearance of fir trees, the location of the

leaves on trees near the outer ends of the branches, the carpet of needles under fir trees (evergreens). Compare the color of the skin of people from warm, sunny climates with that of people in colder climates; compare the appearance of people who work outside with those who work inside. From the above, lead the pupil to realize the relation between sunshine and health.

Air: Things that spoil fresh air; (1) dust and smoke, (2) substances in the air that has been breathed.

(1) *Dust:* The presence of chalk dust, dust that rises from the floor when pupils walk, and dust blown in from outside may be shown by rubbing the walls or woodwork with a white cloth. If the room can be darkened so as to admit only a ray of light the dust may be seen floating in the air.

(2) *Air that has been breathed:* (To make limewater put some fresh lime in a bottle, shake well and allow the whole to stand for a day.) Pour some clear limewater into a glass and ask a pupil to blow his breath into it through a straw. Using some fresh limewater blow the air of the class-room through it by means of a bicycle pump. Test the outside air in the same way and compare results. The pupils may be told that the whitish appearance in the water in the first, and perhaps in the second case, is due to a substance in the air we exhale and this substance renders it unfit for use.

Ventilation: Observations, and discussions about the cause of drowsiness and headaches in schools, or after meetings in crowded halls. Need for ventilation in homes, schoolrooms, churches and halls. Proper temperature of the schoolroom (66 to 70 degrees).

Food: The food of various domestic and wild animals; the methods of seeking, seizing or otherwise obtaining it; the relation of these to habits of life, and to shape and arrangement of the teeth. Domestic animals without teeth, e.g., the hen; the nature of the food and the means of grinding it in such cases; comparison of alimentary canal of man and fowl; need for complete chewing of food.

Grade V. or Junior III.

Work of previous grades reviewed and extended.

Air: Fresh air; ventilation; impurities in air, e.g., spores and germs. Illustrate spores by gently squeezing a ripe puffball; show their presence in air by placing some jelly or the juice of preserved fruit in a dish, leaving it exposed to the air in the schoolroom for a few hours, and, after covering it, allowing it to stand for some days. Direct the attention of the pupils to the mould on bread, leather, fruits; to the rot of fruit, decay of trees, scabs on apples, etc., as other examples of the result of spores floating in the air. From this the pupils may be led to understand the danger of infection in such cases as measles, diphtheria and consumption.

Tobacco: Its uncleanliness, offensiveness and injuriousness.

Care of the body: The skin, hair, teeth.

Food: Food as fuel for the body; foods suitable to animals but not to man; effect of overeating as in adding too much fuel; effect of poor food as in poor fuel. Simple talks leading to a general understanding of the way in which the food is digested and absorbed into the blood.

The Blood: The pumping action of the heart forces the blood to all parts of the body; simple talks on the flow of the blood; the pulse caused by the heart-beat; arteries and veins; the work of the blood in bringing nourishment to all parts of the body and in carrying away the waste matter.

Exercise: Causing the heart to pump faster, thus increasing the flow of the blood; effect of use and disuse of any part of the body on increasing or decreasing the blood supply and, therefore, on the proper development of those parts; need for exercise, both mental and physical; danger of too violent exercise; need for deep breathing to exercise every portion of the lungs; effect of tight clothing on the expansion of the chest and lungs; unhealthy condition of any unused portion of the lungs; danger that spores of consumption taken into the lungs with the air may find a suitable place to grow on these delicate parts, or on those parts of the lungs inflamed during heavy colds.

Grade VI. or Senior III.

Work of the previous grades reviewed.

Food: (1) Of plants. (2) Of man.

1. Simple talks on how plants obtain their food; compare the growth of plants during wet and dry seasons and account for the difference; the value of a plentiful supply of food.
2. The contents of suitable food; foods rich in each content; foods containing all; milk the food of the young; the necessity for a variety of food; why foods spoil.

Care of the body: The eye and ear.

Digestion: Simple talks leading to a general knowledge of the necessity for complete chewing of the food, the use of the saliva, the action of the stomach, the important digestive juices, absorption of the digested food into the blood; the effect of fatigue, either physical or mental on digestion; the danger from overeating.

Circulation: The general structure of the heart; the danger from over-work of the heart during running, jumping, lifting or violent exercise of any kind. Arteries, capillaries, veins with their function and relation. The use of the blood in bringing nourishment and carrying off waste matter.

Infectious and contagious diseases : Their cause ; the necessity for cleanliness and isolation ; the importance of quarantine during epidemics ; the certainty of spreading disease if the supply of water or milk has become infected ; the duties of the Board of Health and the Medical Health Officer. Consumption : its cause and treatment ; the danger from infection.

Alcohol and narcotics : The effect of alcohol and tobacco on the heart, digestion, general health, growth, physical and mental endurance, particularly of youth ; the danger of forming the alcohol and tobacco habits.

Grade VII. or Junior IV.

Work of the previous grades reviewed.

Air : Composition of fresh and exhaled air ; ventilation ; impurities in air, particularly germs of contagious and infectious diseases ; means of preventing them from spreading ; disinfection.

Respiration : Talks, with illustrations to give a general knowledge of the structure of the trachea and lungs ; the circulation of the blood within the thin wall of the air cells ; the mechanism of breathing ; the necessity for deep breathing so as to use all parts of the lungs ; the danger that unused or inflamed parts of the lung may become attacked by the spores of consumption.

Foods : The work of the lower grade reviewed and extended ; drinks ; the effect of stimulants and narcotics.

Care of the body : The nose and throat.

Habits : Pupils should be taught the effect of habits whether good or bad ; how habits are formed ; the importance of forming good hygienic mental and moral habits.

Emergencies : Pupils should receive instruction and training in what to do in such emergencies as fainting, bleeding, apparent drowning.

Grade VIII. or Senior IV.

The work of previous grades reviewed.

Talks with illustrations, to give a general knowledge of the structure of the vocal organs, their function and care ; the function and protection of the brain, the necessity for rest, sleep and mental exercise ; the function and protection of the spinal cord ; the function of the nerves.

Alcohol and narcotics : The effect of alcoholic stimulants and narcotics on the brain and nervous system, the mind, the heart, digestion, physical and mental endurance, growth and general health.

Habits : The effect of habits, good or bad, on the physical, mental and moral life should be strongly emphasized ; the danger of forming bad habits during youth when the evil effect is not realized ; the danger of becoming mere creatures of habit ; the relation of these physical, mental and moral habits to health ; the relation of health to happiness and efficient work should be impressed on the pupil ; the effect of high purpose and determined will on the health of the body as well as on the mind and character.

Emergencies : Pupils should be given instruction and training in bandaging and in "first aids" in cases of fainting, bleeding, drowning, dislocations, fractures, burns, sunstroke and poisoning.

NATURE STUDY.

Changes : The outline for 1904 has been used throughout as the basis for the present outline. Such topics as those relating to land surfaces, industries, weather and stars have been transferred to the Geography ; other topics, such as animal organs and functions, and the mechanical principles applied to the construction of common tools and implements have been left out. Nearly all the additions have been in the nature of studies in Elementary Agriculture for use of the rural schools especially. The work in gardening has been outlined somewhat specifically for the better guidance of the teacher. The whole outline does not include as much work as the former one.

Limitations in the Work : From the character of the subject the course must be more or less elastic. The topics detailed in the programme are intended to be suggestive, rather than prescriptive. It may be that owing to local conditions topics not named are amongst the best that can be used. It is claimed for the work, that a child on leaving school is entitled to be acquainted with the common things about him—trees, weeds and flowers, soils and rocks, birds, insects and other animals—and that the acquaintance-ship has been brought about through self activities directed by his teacher. Towards the end of the course, the character of the work will tend towards that of Elementary Science.

Aim and Method : The acquisition of knowledge must be made secondary to awakening and maintaining the pupil's interest in nature and to training him to habits of observation and investigation. The pursuit of this aim determines the method to be employed. *The teacher's first office lies in setting reasonable, interesting problems or tasks which the child's mind is to find exercise in answering—the child is "to do something in order that he may learn something."* *The teacher's second office consists in stimulating and directing the*

child's inquiry so that satisfactory answers may be found for the problems. Thus by using the phenomena of nature as a means, the child is trained to be an observer and investigator. Moreover in the process of training he is brought into an intelligent, sympathetic accord with Nature that makes for a better adjustment with his environment.

The treatment of the subject must always be suited to the age and experience of the pupils and to the seasons of the year, accessibility of materials, etc. Notes shall not be dictated by the teacher. Mere information, whether from book, written note or even from the teacher, is not Nature Study. In ungraded schools, all the classes may often take the lessons together.

Reading, etc.: Books for reference and supplementary reading should be provided in the school library. Some valuable publications on the subject of Nature Study, for the teacher's use, may be obtained free on application to the Department of Agriculture, Toronto.

The "School's" Section of the Ontario Agricultural and Experimental Union, O.A.C., Guelph, offers assistance in practical Elementary Agriculture in the way of providing material for children's gardens and simple experiments.

Grades I. and II. or Junior I. and Senior I.

Plant and Animal Studies.

FALL.

Animal Life

Birds: Fall migrations; last appearance of Robin, Bluebird, - Swallow.

Insects: Withdrawal of insect life; last appearance of butterflies; gathering cocoons after the leaves have fallen; collection of larvae to be kept in boxes in school-room.

Plant Life

Gardening: Planting bulbs of tulips and narcissus in the school garden for early spring blooming; planting bulbs in pots for forcing for winter-bloom at home.

Leaves: Forms, tints, and collections of autumn leaves; dates of falling.

Buds: Examination of tree buds to note their location and covering as a winter protection, e.g., Apple, Poplar and Horse-chestnut.

Fruits: Consideration of forms, varieties, uses of common fall fruits of the locality, e.g., Apples, Pears, Grapes.

Seeds: How seeds are spread, e.g., Canada Thistle, Milkweed, Burdock.

Roots and Stems: Forms, varieties and uses of common vegetables, e.g., Turnips, Carrots, Potatoes, etc.

WINTER.

Animals

Pet Animals : Appearances, habits, care, food, e.g., Cat, Dog, Rabbit, Canary.

Farm Animals : Habits, care, food, uses, e.g., Horse, Cow, Sheep, Pig.

Birds : Observation of appearance and habits of winter residents, e.g., Chickadee, Blue Jay, Crow; of Winter visitors: Snow-flake (Snowbird).

Plants

Agricultural : Care of winter-blooming plants, at home and school. Activities of the farm during winter; the barn and its uses; sports and social life; comparison of the pioneer's life and work with modern farm life and work.

SPRING.

Animal Life

Birds : Observation of appearance, food and habits of chicks, ducklings and goslings. Observation and recording of return from south of Robin, Song Sparrow, Bluebird, Swallow, also nesting, song, food, and enemies of House Sparrow, Robin, Grackle, Crow.

Birds to be recognized : e.g., Junior—Robin, Bluebird, House-sparrow, Grackle, Crow. Senior—Song Sparrow, Chipping Sparrow, Bobolink, Meadow Lark, Goldfinch.

Insects : Development of cocoons gathered in fall and winter, appearance of common butterflies.

Plant Life

Gardening : Propagation of geranium cutting in school window-box or at home, growing one flower and one vegetable in a home or school garden plot, e.g., Junior—Nasturtium and Lettuce. Senior—Sweet Peas and Radish.

Leaves and Buds : Opening of buds and expansion of leaves, e.g. Lilac, Horsechestnut, Apple.

Wild Flowers : Excursions to woods; wild flower plot in school grounds, noting first appearance and recording on flower chart; e.g., Junior—Spring Beauty, Hepatica, Bloodroot, Marsh Marigold, Dandelion. Senior—Violets, Buttercups, Trilliums, Jack in the Pulpit, Adder's Tongue.

Garden Flowers : Early spring flowers about school: Crocus, Tulip, etc. Observation on development in children's own garden; bouquets for school.

Seeds : Observation of germination of seeds planted in children's gardens or window boxes.

Agricultural : Farm occupations, sugar making, sowing, plowing.

Grades III. and IV. or Junior II. and Senior II.

FALL.

Animal Life

Birds : Records of fall migrations and last appearances, e.g., Junior—Blackbirds, Robins, Bluebirds, Swallow. Senior—Juncos, Sparrows, Wild Geese, Plover.

Insects : Collection of larvae or cocoons of the Emperor Moths for wintering, e.g., Junior—Promethea (The Black Emperor), Polypheus (The Great Eyed-Emperor). Senior—Cecropia (The Great Emperor), Io (The Small Eyed-Emperor), Luna (The Green Emperor).

Wild Animals : Appearance, habits, food, e.g., Junior—Chipmunk, Woodchuck. Senior—Squirrel, Muskrat.

Plant Life

Flowers and Fruit : Development of fruit from flower as seen in, e.g., Junior—Sweet Pea, Tomato. Senior—Nasturtium, Pumpkin.

Wild Flowers, etc. : Common autumn flowers, e.g., Junior—Goldenrod, Asters, Yarrow, Touch-me-not. Senior—Wild Clematis, Virginia Creeper, Boneset, Joe Pye Weed.

Trees : Observation of leaf, bud, twig, and leaf-fall of one common shade and one forest tree, e.g., Junior—Maple and Horsechestnut. Senior—Elm and Box Elder (Manitoba Maple).

Garden Work : Harvesting and storing vegetables grown in children's gardens; gathering flower seeds; fall bulb planting at home and school; fall cultivation of garden plot preparatory to winter.

WINTER.

Animal Life

Farm Animals : Common breeds, e.g., Junior—Horses, Pigs. Senior—Cattle, Sheep.

Household Pests : Appearance, habits, food, destructiveness, e.g., Rats and Mice.

Plant Life : Imported fruits and nuts sold in shops, where they are grown, how they are shipped, the uses made of them.

SPRING

Animal Life

Birds: Further acquaintance with common forms: e.g., Junior—Barn Swallow, Chimney Swift, Baltimore Oriole, Flicker, Hummingbird. Senior—Blue Jay, Kingfisher, Heron, Phoebe, Wren, Catbird.

Insects: Observation of life histories and activities of common forms, e.g., Junior—Cabbage Butterfly and Clover Butterfly. Senior—Grasshoppers and Ladybird Beetles.

Garden Animals: Form and habits of the following: e.g., Junior—Earthworm. Senior—Common Garden Toad.

Aquarium: Development of frog or toad from the egg, e.g., Junior—Frog. Senior—Toad.

Plant Life

Flowers and Fruit: Observation of the blossoming and fruit-setting of common fruits and vegetables, e.g., Junior—Apples and Beans. Senior—Plums and Peas.

Wild Flowers: Further acquaintance with common forms, e.g., Junior—Anemone, Blue Cohosh, Blue Flag, Columbine, Wild Geranium. Senior—Flowering shrubs and trees, Lilac, Hawthorn, Honeysuckle, Spiraea, Cherry.

Trees: Recognition of common trees; opening of buds, flowers and leaves of common forest and shade trees: e.g., Junior—Maple and Horsechestnut. Senior—Elm and Box Elder (Manitoba Maple).

Garden Work: (1) Class plot in school garden, e.g., Junior—Growing different kinds of onions. Senior—Growing different kinds of beets. (2) Garden plots of one flower and one vegetable in home or school garden, e.g., Junior—Marigold and Beets. Senior—Corn Flower and Spinach. (3) Propagation of cuttings, e.g., Junior—Begonia. Senior—Coleus.

Grades V. and VI. or Junior III. and Senior III.

FALL.

Animal Life

Previous studies continued on (1) Fall migrations of birds; (2) Breeds of Farm Animals; (3) Life histories of moths and butterflies.

Birds: Comparison of different breeds of domesticated birds, e.g., Junior—Pigeons, Ducks, Geese. Senior—Hens, Turkeys.

Insects : Observation of life and activities of beneficial and injurious forms, e.g., Junior—Dragon Flies and Grasshoppers. Senior—Ladybird Beetle and Colorado Beetle.

Wild Animals : Appearance, habits, food of : e.g., Junior—Mice, Mink. Senior—Bats, Fox.

Plant Life

Previous work continued. (1) Harvesting garden products and preparing plots for winter ; (2) Wild Flower Studies continued; e.g., Junior—Mallow, Blue Vervain, Catnip, Milkweed, Heal All. Senior—Poisonous Plants—Nightshades, Spurges, Jimson Weed, Thorn Apple, Water Parsnip, Poison Ivy. (3) Tree studies continued: e.g., Junior—Maples and Elms. Senior—Oak, Birch, Beech, Cedar, Spruce.

Fruits

Comparison and recognition of varieties of fall fruits : e.g., Junior—Apples (5 varieties), Grapes (3 varieties), Pears (3 varieties). Senior—Apples (10 varieties), Grapes (5), Pears (5), Peaches.

Farm and Garden Crops

Observation and discussion of methods of cultivation and harvesting ; estimates of yields ; classification of varieties : e.g., Junior—Root Crops, Corn, Clovers. Senior—Cereals, Grasses.

Weeds and Seeds

Observation and recognition of common weeds. Collections of pressed specimens and their seed, e.g., Junior—*Garden Weeds* : Pigweed, Purslane, Lamb's Quarters, Shepherd's Purse, Groundsel. Senior—*Field Weeds* : Canada Thistle, Ox Eye Daisy, Sow Thistles, Rib Grass, Mustard.

WINTER.

Previous work continued on (1) Winter bird residents or visitors; (2) Wild animals of the neighborhood.

Animal Life

Reading of nature literature with discussions; consideration of adaptations of different kinds of animals to their surroundings. Observation and recognition of furs bought and sold or used locally. Consideration of industrial and domestic use of products of farm animals. Trade in wool, leather, glue, fertilizers, meats, cheese, butter. Habits and life histories of our wild game ; game laws ; laws protecting insectivorous birds.

Plant Studies

Uses of Plant Products : Consideration of industrial and domestic uses of (1) Our farm and garden crops, e.g., Junior—Flours, Oatmeal, Starches, Syrups, Table Vegetables, Flax. Senior—Feeding of farm animals, cooking of vegetables, etc. ; (2) Consideration of Lumbering Industry ; uses of different woods ; exports and imports.

Experimental (on Seed Grains). (1) Testing the germinating strength of samples of seed grain ; (2) Examination of seed grain, grasses or clover for weed seed impurities.

General

Soils : Observation, recognition and classification of the soils of the neighborhood; the effects of wintering on soils. Simple soil experiments : e.g., Junior—To make a simple soil analysis by separating the constituents, (O.A.C. Bulletin No. 124.) Senior—To determine the water holding capacity of different kinds of soils.

Water : Consideration of water supplies, rainfall, hardness, softness and purity, simple experiments, e.g., Junior—To test samples of water for hardness by comparing the curdlings made by soap. Senior—(1) to test samples for impurities by setting sealed bottles of suspected samples in sunlight and noting odors; (2) to measure rainfall with an upright sided dish used as a rain guage.

Heat : Consideration of methods of transmission of heat ; air currents and systems of ventilation ; construction and graduation of thermometers; simple experiments, e.g., Junior—to show the effects of heat in the expansion of liquids, solids and gases. Senior—(1) to take readings of temperature with maximum and minimum thermometers; (2) to test local thermometers for accuracy.

SPRING.

Animal Life

Previous Work Continued on Birds and Insects.

Birds : e.g. Junior—Red-winged Blackbird, Cowbird, White-breasted Nuthatch, Killdeer Plover, Sapsucker ; Senior—Vesper Sparrow, Cedar Waxwing, Yellow Warbler, Kingbird, Great Blue Heron.

Insects : e.g., Junior—Water Striders, Water Boatmen, Back Swimmers, Caddice, Flies, Giant Water Bugs (Electric Light Bug); Senior—Plant Lice, House Fly, Mosquitoes, Bees, Clothes Moths, Buffalo Moth.

Birds

Observation on the natural and artificial hatching of chicks.

Fishes, Amphibians and Reptiles

Observation and recognition of common fishes caught in neighborhood or sold in shops ; common snakes and frogs.

Aquaria and Vivaria : 1. Observation of movements, breathing and feeding of fish in aquarium. 2. Observation of development of mosquitoes. 3. Observation of feeding habits of toad, frog or snake kept in vivarium.

Plants

Previous Work Continued on Wild Flowers and Trees :

Wild Flowers : e.g., Junior—Bishop's Cap, False Mitrewort, Common Cattail, May Apple (Mandrake,) Water Cress ; Senior—Dutchman's Breeches, Squirrel Corn, Baneberry, Meadow Rue, Water Leaf.

Trees : Conifers, e.g., Junior—Pines, Tamarack; Senior—Larch, Hemlock, Balsam.

Fruits

Comparison and recognition of varieties of earlier local fruits, e.g., Junior—Strawberries, Currants, Gooseberries; Senior—Cherries, Raspberries, Plums.

Farm and Garden Crops

Observation and records of seeding operations, growth of crops, weather conditions, etc.

Weeds.

Observation of the different weeds growing amongst garden and field crops.

Garden Work

1. Class plot for trees in school garden; e.g., Junior—Growing seedling fruit trees ; Senior—Growing seedling forest and shade trees. 2. Garden plots of one flower and one vegetable in home or school garden ; e.g., Junior—Petunia and Beans ; Senior—China Pinks and Carrots. 3. Propagation of cuttings ; e.g., Junior—Currants and Gooseberries ; Senior—Grapes and Asparagus.

Grades VII. and VIII. or Junior IV. and Senior IV.

The observational work of Form IV. should be largely in the nature of reviewing and extending the studies of previous years. The new work should partake more of the nature of elementary experimental science, emphasizing those interests that will be most helpful to the pupils in interpreting phenomena connected with their daily lives and work.

FALL.

Animal Life

Previous studies continued on: (1) Birds; (2) Insects; (3) Farm animals; (4) Garden animals.

Economic Insects: Further observation of habits and life histories of economic insects. e.g., Junior—Tossock Moth, Tent Caterpillars. Senior—Borers, Maggots, Oyster-Shell Bark-Louse, San José Scale.

Plant Life

Previous studies continued on: (1) Wild Flowers; (2) Farm and Garden Crops; (3) Fruits; (4) Trees.

Plants in Societies: Observation of the plants associating in some special localities: e.g., Junior—Plants of the vacant lots, roadsides, railway tracks and river courses; Senior—Plants of the woods, ponds, marshes, lawns, cultivated fields; “burns” and “slashes.”

Flowerless Plants: Observation and recognition of: e.g., Junior—Lichens, Liverworts, Mushrooms, Bracket Fungus, Puff Ball; Senior—Mosses, Ferns, Horsetails.

Plant Diseases

Observation and recognition of common diseases: e.g., Junior—Rots of Apples, Grapes, Plums and Potatoes; Senior—Apple, Pear and Potato Scabs; Grain Rusts and Smuts; Black Knot.

WINTER.

Animal Life

Summarizing, Classifying and Reading: General review of animals studied; their relation to man: simple classifications. Reading of animal books and discussions on them.

Plant Life

Weed and Weed Seeds: Special drills on weeds and weed seeds; discussions on methods of destroying them; exercises on detecting and identifying weed seeds in grain that is to be used in seeding.

Crop Improvement: Exercises in selecting seed grain; making comparative germination tests of large plump, small plump and shrivelled grains; consideration of the aims and plans of the Canadian Seed Growers' Association. Consideration of the results of the experiments in the testing of grain varieties at Experimental Farms.

General

Introduction to Elementary Science: e.g., Junior—Mineralogy, Chemistry, Bacteriology. Senior—Physics.

Junior.

Mineralogy : Observation, recognition, comparison and uses of local minerals and rocks.

Chemistry : Air :—1. To show its composition by burning sulphur or phosphorus (ends of sulphur matches) in a pickle bottle inverted over water.

2. To show its limitations in supporting combustion by burning wood splinters, wax tapers or candles, paper tapers, etc. in glass jars inverted over water.
3. To show the changes produced by respiration by blowing the breath into lime water through a glass tube or by comparing the action of the air of the school room on a dish of exposed lime water with the action of the air on a dish placed outdoors in the fresh air.
4. To show the reciprocal relations of plants and animals as regards the atmosphere by keeping animals alive in aquaria that are provided with growing green plants.

Bacteriology : To demonstrate the bacterial or spore impurities of air, water or dust, by showing the effect of exposing sterilized milk to the air of the schoolroom, dust from a floor or stable, or dirty water, and comparing it with sterilized milk that has been kept sealed.

Senior.

Physics : On forms of matter. To show the distinction between amorphous and crystalline by using common sugars for examples.

On solution. 1. To demonstrate the simpler phenomena of solution by comparing the amounts of sugar and salt that can be dissolved in water. 2. To demonstrate the simpler phenomena of diffusion by placing a piece of bluestone at the bottom of a glass jar filled with water and leaving it undisturbed.

On natural forces. *Gravity*. 1. To demonstrate the buoyant pressure of air by reference to the common pump or barometer. 2. To demonstrate the buoyant pressure of water by balancing two iron weights on a suspended rod and then allowing one weight to sink into water, or by finding the load that a floating cork can carry.

On capillarity. To demonstrate the application of capillarity in lampwick, blotting paper and soil.

On soils : To compare the temperatures of sandy and clayey soils when under similar conditions.

On applied science : Consideration of industrial uses of heat, steam, gas and electricity.

SPRING.

Previous studies continued on : (1) Birds, (2) Insects, (3) Frogs, (4) Snakes, (5) Fish.

Animal Studies

Aquaria : Observation of movements, feeding, etc., of, e. g., Junior—Crayfish. Senior—Clams and Snails

Insects, etc. : Observation of work and habits of, e. g., Junior—Ants, Spiders. Senior—Honey Bee, Centipedes.

Plant Studies

Previous studies continued on (1) Wild Flowers, (2) Fruits, (3) Farm and Garden Crops, (4) Trees.

Plant Structures and their Functions : Examination of a few plants noting the different parts and learning their functions, e. g., Junior—Tulip and Geranium. Senior—Apple Blossom and Clover or Pea.

Experimental

Junior.

The Plant in Relation to Soil : 1. To compare the growth of wheat in sand, clay, humus and mixed soils. 2. To demonstrate the value of mulching in class plot or home garden by comparing the growth of plants on one part of the plot that has been kept mulched with the growth on a part that has not been mulched at all.

The Plant in Relation to Air : 1. To show the advantage of a good air supply about the roots of plants by comparing the growth of two potted geraniums, one of which is kept very wet. Note the growth of crops in low lying land in wet seasons and account for changed appearance. 2. To measure the volume of air in different soils by displacing the air with water, e. g., by taking a quart measure full of soil and finding out how much water can be poured on without an overflow.

Senior.

The Plant in Relation to Water : 1. To estimate the amount of water absorbed by seeds in germination by weighing out a few ounces of beans or wheat, soaking them to a point of

germination, roughly drying and weighing again. 2. To demonstrate root hairs on seedlings by sprouting corn, wheat, onions, radish, etc., between damp blotting papers or in "Zurich Germinators." 3. To show that plant food is taken from the soil through the roots by growing seeds in two pots of clear pure sand and feeding the plants in one pot with small quantities of plant food, such as may be sold by seedsmen. 4. To show the path taken by water in its ascent through the plant by placing cut stems of carnations, balsams, etc., in water colored with red ink. 5. To estimate the amount of water transpired by a plant by wrapping oil cloth securely about a pot in which a thrifty and well watered plant is growing, so that no moisture can escape from the surface of the pot or the soil, and comparing its weight at the time of wrapping (morning) with the weight taken some hours afterwards (afternoon). 6. To estimate the amount of moisture lost by plants in the drying of hay by weighing a few pounds of the freshly cut grass and then taking the weight of it as dried hay.

Garden Work

1. Class Plot in school garden in Agriculture, e.g., Junior—To demonstrate the different kinds of wheats. Senior—To demonstrate the value of spraying potatoes.
2. Individual garden plots at home, growing one flower and one vegetable, e.g., Junior—Verbena and Onions. Senior—Asters and Sweet Corn.
3. Artificial propagation of plants, e.g., Junior—Grafting on apple trees. Senior—Budding.
4. Care of orchards.—Methods of pruning, cultivating, manuring, spraying.

MANNERS AND MORALS.

General Suggestions.

Method : Throughout the whole Public School course, the teacher shall aim to have the pupils practise those external forms of conduct which express a sense of the proprieties of life and the politeness which denotes a courteous respect for the needs and wishes of others. He shall also by his own influence and example, by the narration of suitable tales and fables that awaken right feeling, by the memorization of gems embodying noble sentiments, by the repetition of texts, maxims and proverbs containing rules of duty, by lessons drawn from current incidents, from Scripture readings, from literature and history and by direct instruction, seek to direct the attention of the pupils to the moral quality of their acts and to form in them habits of right conduct and courteous manners.

The following outline of Lessons in Manners and Morals is taken from White's School Management, (See pp. 218-294).

Each of the sub-topics below is designed for one or more lessons. The teacher should note incidents that form a good basis and select those topics which can be presented most successfully.

1. Cleanliness and Neatness.

- (a) Body, hands, face, hair, nails, etc.
- (b) Clothing, shoes.
- (c) Books, slates, desk, work, etc.
- (d) Everything used or done.

2. Politeness (children)

- (a) At school.
- (b) At home.
- (c) At the table.
- (d) To guests or visitors.
- (e) On the street.
- (f) In company.

3. Gentleness.

- (a) In speech.
- (b) In manner.
- (c) Rude and boisterous conduct to be avoided.
- (d) Patient, when misjudged.
- (e) Docility, when instructed.

4. Kindness to others.

- (a) To parents.
- (b) To brothers and sisters.
- (c) To other members of the family and friends.
- (d) To the aged and infirm.
- (e) To the unfortunate.
- (f) To the helpless and needy.
- (g) The Golden Rule.

5. Kindness to Animals.

- (a) To those that serve us.
- (b) To those that harm us—the killing of birds.
- (c) The killing of those that do us harm.
- (d) The killing of animals for food.
- (e) Cruelty to any animal, wrong.

6. Love.

- (a) For parents.
- (b) For brothers and sisters.
- (c) For other members of the family and friends.
- (d) For teachers and all benefactors.
- (e) For neighbor.
- (f) For God.

7. Truthfulness.

- (a) In words and actions—"Without truth there can be no other virtue."
- (b) Keeping one's word—promises to do wrong.
- (c) Distinction between a lie and an untruth.
- (d) Telling what one does not know to be true.
- (e) Prevarication and exaggeration.
- (f) The giving of a wrong impression, a form of falsehood.
- (g) Telling falsehoods for fun.

8. Fidelity to duty.

- (a) To parents—to assist, comfort, etc.,
- (b) To brothers and sisters—older to assist, etc., the young.
- (c) To the poor and unfortunate.
- (d) To the wrong and oppressed.
- (e) Duty to God.

9. Obedience.

- (a) To parents.
- (b) To teachers and others in authority.
- (c) To law.
- (d) To conscience.
- (e) To God.

10. Nobility.

- (a) Manliness.
- (b) Magnanimity and generosity.
- (c) Self-denial and self-sacrifice for others.
- (d) Bravery in helping or saving others.
- (e) Confession of injury done another.

11. Respect and Reverence.

- (a) For parents.
- (b) For teachers.
- (c) For the aged.
- (d) For those who have done distinguished service.
- (e) For those in civil authority..

12. Gratitude and Thankfulness.

- (a) To parents.
- (b) To all benefactors.
- (c) To God as the giver of all good.

13. Forgiveness.

- (a) Of those who confess their faults.
- (b) Of those who have wronged us.
- (c) Of our enemies.
- (d) Generosity in dealing with the faults of others.

14. Confession.

- (a) Of wrong done another, manly and noble.
- (b) Denial of faults, "The denial of a fault doubles it."
- (c) Frankness and candor.

15. Honesty.

- (a) In keeping one's word.
- (b) In school and out of school.
- (c) In little things.
- (d) Cheating, ignoble and base.
- (e) "Honesty is the best policy."
- (f) Honesty is right.

16. Honor.

- (a) To honor one's self, i.e., to be worthy of honor.
- (b) To honor one's family.
- (c) To honor one's friends.
- (d) To honor one's home.
- (e) To honor one's country.

17. Courage

- (a) True courage—daring to do right and to defend the right.
- (b) False—daring to do or defend the wrong.
- (c) In bearing unjust censure or unpopularity.
- (d) In danger or misfortune.
- (e) Heroism.

18. Humility.

- (a) True greatness—not blind to one's own faults.
- (b) Modesty—becoming to the young.
- (c) Avoidance of pride and vanity.
- (d) Self-conceit, a sign of self-deception.
- (e) True humility, not servility or true serving.

19. Self-Respect.

- (a) Not self-conceit—based on conscious moral worth.
- (b) Not self-admiration.
- (c) Resulting in personal dignity.
- (d) Distinction between self-love and selfishness.
- (e) "Be not wise in your own conceit."

20. Self-Control.

- (a) Control of temper.
- (b) Anger, when right.
- (c) Avoidance of hasty words,—think twice before you speak.
- (d) Self-restraint when tempted.
- (e) Self-restraint under provocation,—bear and forbear.
- (f) Rule your own spirit.

21. Prudence.

- (a) In speech and action.
- (b) When one may be misunderstood.
- (c) Respect for the opinion of others.
- (d) "Judge not that ye be not judged."

22. Good Name.

- (a) Gaining a good name when young.
- (b) Keeping a good name.
- (c) Keeping good company.
- (d) Reputation and character.

23. Good Manners (youth).

- (a) At home.
- (b) At school.
- (c) In company.
- (d) When a visitor or a guest.
- (e) In public assemblies.
- (f) Salutations on the street.
- (g) Politeness to strangers.
- (h) Trifling in serious matters to be avoided.

24. Health.

- (a) Duty to preserve health.
- (b) Habits that impair health, foolish as well as sinful.
- (c) The sowing of "wild oats"—"What a man sows, that shall he also reap."
- (d) The body never forgets nor forgives its abuse.
- (e) An observance of the laws of health a duty.

25. Temperance.

- (a) Moderation in indulgence of appetite in things not harmful.
- (b) Total abstinence from that which is injurious.
- (c) Dangers in the use of alcoholic liquors.
- (d) Courage to resist social temptations to indulgence.
- (e) Injurious effects of tobacco on growing boys.
- (f) Cigarette smoking by boys a serious evil.

26. Evil Habits.

- (a) Those that injure health.
- (b) That destroy reputation.
- (c) That dishonor one's self and family.
- (d) That waste money.
- (e) That take away self-control.
- (f) That are offensive to others.

27. Fad Language.

- (a) Profanity, foolish and wicked.
- (b) Obscenity, base and offensive.
- (c) Defiling books or other things with obscene words and characters a gross offence.
- (d) The use of slang, vulgar and impolite.

28. Evil Speaking.

- (a) Slander a serious offence.
- (b) Tale bearing to injure another.
- (c) Repeating evil which one has heard without knowing it is true.
- (d) Thou shalt not bear false witness against thy neighbor.

29. Industry.

- (a) Labor a duty and a privilege.
- (b) Right use of time.
- (c) Manual labor honorable.
- (d) Self-support gives manly independence.
- (e) Avoidance of unnecessary debt.
- (f) When begging is right.
- (g) An opportunity to earn a living by labor due every one.

30. Economy.

- (a) Saving in early life means competency and comfort in old age.
- (b) Duty to save a part of one's earnings—"Lay up something for a rainy day."
- (c) Extravagance wrong—"A spendthrift in youth, a poor man in old age."
- (d) The hoarding of money needed for comfort, or culture or charity, wrong.
- (e) Charity—"No man liveth unto himself."

Patriotism.

- (a) Love of country.
- (b) Reverence for its flag.
- (c) Respect for its rulers.
- (d) Its defence when necessary.
- (e) Regard for its honor and good name.

32. Civil Duties.

- (a) Obedience to law.
- (b) Fidelity in office—bribery.
- (c) Honor in taking an oath—perjury.
- (d) Duty involved in the ballot—buying or selling votes.
- (e) Dignity and honor of citizenship, etc.

